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1 Introduction

1.1 Preface / Functionality

The UBS ISO 20022 Test Platform (hereinafter **Test Platform**), which UBS makes available free of charge to software manufacturers and companies, is an important tool for the creation of ISO 20022 messages for payment transactions.

Terms and Conditions of the UBS ISO 20022 Test Platform (available under <u>ubs-paymentstandards.ch</u>, on the login page) regulate the use of the Test Platform.

The Test Platform enables the simulation of certain application cases of the UBS ISO 20022 offer in a test environment with anonymized test data (including dummy IBANs). The Test Platform validates payment and direct debit orders (pain.001 and pain.008), simulates the return of payment status messages (pain.002) and camt messages (camt.052, camt.053 and camt.054), and validates and generates QR-bills. For details on the range of functions and supported formats, see chapters 1.2 and 1.3.

In "Account Reporting" you will find data of uploaded credit transfers (pain.001) and direct debits (pain.008) as well as data of Excel templates for simulation of incoming payments, which you can use as a basis for various camt simulations. Thus, software developers and testers have access to a universal platform to validate test files, to perform simulations based on uploaded files or on provided sample libraries and finally to download the validation results or simulation outcome.

The test platform is designed to be used only with anonymized test data (including fictitious IBANs).

UBS ISO 20022 Test Platform

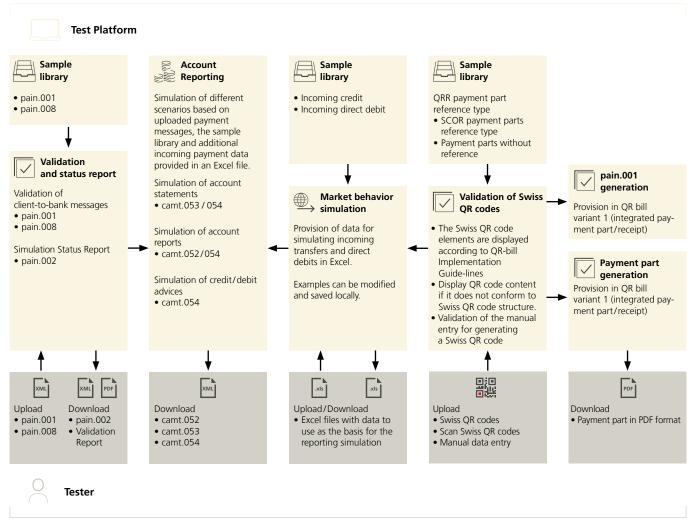


Figure 1

1.2 UBS channels per location and range of functionality

The UBS ISO 20022 Test Platform depicts the behavior of several UBS channels in locations CH (UBS Switzerland AG) and DE (UBS Europe SE). Depending on the channel there are differences in supported formats and available simulation and reporting capabilities. These differences are mentioned at the relevant chapters, the following channel/simulation matrix shows an initial overview.

Available Simulations/Message Type	UBS Switzerland AG/KeyPort	UBS Switzerland AG/E-Banking File Transfer	UBS Europe SE/KeyPort
Status-Report (pain.002)	Х	-	Х
Account Statement (camt.053/+camt.054)	Х	Х	Х
Account Report (camt.052/+camt.054)	Х	-	Х
Debit/Credit Advice (camt.054)	Х	-	-

Table 1

The relevant location and UBS channel is selected during registration and a multiple selection is possible. If more than one channel is selected, the requested channel and location must be specified when logging in.

It's possible to enable or disable every channel and location also after registration, for details see item number 2 within chapter 1.4.

1.3 Supported formats per location and channel

See all important documents at a glance: to the documents

UBS Switzerland AG – KeyPort

	Swiss Payment Standards	SEPA	CGI
pain.001	SPS 2021 version 1.11	EPC 2018	CGI 2018
	SPS 2023 version 2.0.2		
pain.002	SPS version 1.1.2	ISO V03	ISO V03
	SPS version 2.0.1		
pain.008	SPS version 1.2 (Swiss direct debit system)	-	-
	SPS Version 2.3 & 2.7 (SEPA direct debit)		
camt.052	ISO V04 & V08	ISO V04 & V08	ISO V04 & V08
camt.053	ISO V04 & V08	ISO V04 & V08	ISO V04 & V08
camt.054	ISO V04 & V08	ISO V04 & V08	ISO V04 & V08

UBS Switzerland AG - E-Banking File Transfer

	Swiss Payment Standards	SEPA	CGI
pain.001	SPS 2021 version 1.11	-	-
	SPS 2023 version 2.0.2		
pain.002	-	-	-
pain.008	-	-	-
camt.052	-	-	-
camt.053	ISO V04 & V08	-	-
Table 3 camt.054	ISO V04 & V08	-	-

UBS Europe SE - KeyPort

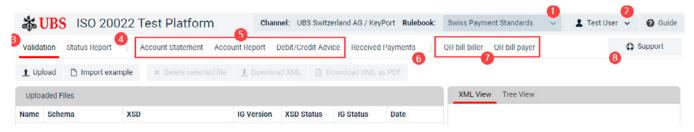
	Swiss Payment Standards	SEPA	CGI
pain.001	-	DK 2.9	CGI 2018
		DK 3.3	
		EPC 2018	
pain.002	-	DK 2.9	ISO V03
		DK 3.3	
		ISO V03	
pain.008	-	DK 2.9	+
		DK 3.3	
camt.052	-	ISO V02	ISO V02
camt.053	-	ISO V02	ISO V02
camt.054	-	ISO V02	ISO V02

Table 4

QR-bill

The Test Platform supports the Implementation Guidelines QR-bill SPS – Version 2.2.

1.4 Main navigation function overview



Screenshot 1

Note: The scope of functions in this screenshot corresponds to the channel UBS Switzerland AG / KeyPort – Swiss Payment Standards. When using other channels, not all simulation options are available, see channel / simulation matrix in chapter 1.2.

- 1. Channel change as per rule books
 - UBS Switzerland AG: change between "Swiss Payment Standards", "Common Global Implementation Switzerland" and "European Payments Council"
 - UBS Europe SE: change between "German Banking Industry Commitee," "Common Global Implementation Germany" and "European Payments Council"
 - The Test Platform validates client-to-bank messages and simulates bank-to-client messages according to the selected standard.
- 2. User logout or deleting user account, choosing UBS channels, activate or deactivate newsletter, and changing the password (note: the channel which has been selected for current login cannot be disabled)
- 3. Validation: sample library, upload and validation of customer-to-bank messages (pain.001 and pain.008)
- 4. <u>Status Report</u>: simulation scenarios for positive (ACCP, ACTC, ACWC, PART) and negative (RJCT) payment status reports (pain.002)
- 5. <u>Account Reporting</u>: various booking and reporting simulation scenarios based on uploaded payment data to create account statements (camt.053/054), account reports (camt.052/054) as well as debit/credit advices
- 6. <u>Received Payments</u>: simulation of market behavior
 - Provision of data in Excel format for simulation of incoming credit transfers and direct debits. Examples can be adapted and downloaded for future reuse.
- 7. <u>QR-biller/QR-bill payer</u>: sample library, upload and validation of QR-bills and their data and generation of pain.001 or payment slips as PDF.
- 8. Support button: The Test Platform user has always the possibility to ask for support. By clicking on this support button, he will be redirected to the support pages from UBS.

2 Validate Messages

First, you have to upload a payment message or to import one of the prepared examples to be able to use one of the simulation functionalities. Data thus obtained are the basis to create status reports (pain.002) as well as account statements and account reports (camt messages). For details to the simulation capabilities please consult the appropriate chapters.

This chapter focusses on the validation of client-to-bank payment initiation messages. Hints, provided based on the result of the validation, are divided into the following categories by severity:

InfoUseful information and references concerning the message or concerning certain elements within the message. No

amendment is necessary.

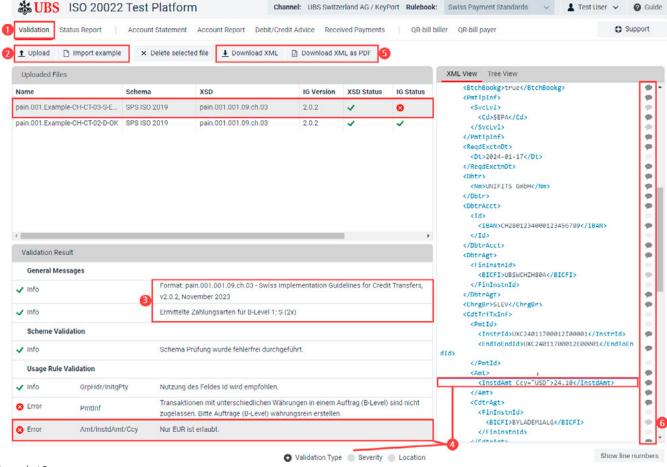
Warning Usually certain implementation guidelines recommendations are not respected. It is not mandatory to change the

message creation, but it is advisable.

Error There are 2 different kinds of errors. Schema errors and usage rule errors. In both cases a change is mandatory.

2.1 Customer-to-bank messages validation

To validate such a message, please proceed as described in the following screenshot.



- Screenshot 2
- 1. Select menu item "Validation"
- 2. Click the "Upload" button
 - A pop-up window will appear to choose a file saved on your desktop. After having been selected, the file is going to be imported to the Test Platform and validation starts automatically.
 - Alternatively, you can import predefined examples by clicking the "Import example" button. (you can choose between examples from three categories: Swiss Credit Transfer, Swiss Direct Debit and SEPA Direct Debit)
- Information on determined message format and payment types

- 4. Examine validation result:
 - Click on a file displayed in the uploaded files area and corresponding messages will be shown in the lower half of the screen. Click on one of the shown warnings or errors (if any) and in the right section of the screen the affected part of the XML will be shown. By using the radio buttons on the bottom edge of the window you can change grouping and sorting of the messages displayed within the validation result area. This might be helpful in the case of large number of displayed messages (info, warning, error).
- Download validation result:
 The validated XML file contains all the relevant info, warning and error messages. Download of this annotated XML file is possible as text file (.xml) as well as PDF report.
- Look-up function: Integrated field definitions from the implementation guidelines.

Click on a message bubble in the XML area and definitions and notes for the corresponding element will be shown as in the example on the right. The shade of grey indicates if there is just an ISO definition (light grey), or an additional CH definition (grey), or further an UBS definition (dark grey) for this element.



Screenshot 3

2.2 Swiss Direct Debit two-step validation (pain.008-CHTA)

The following two-step validation will be performed when the client (creditor) delivers a direct debit file via UBS KeyPort/UBS KeyPort Web.

- The first validation is performed at UBS and encompasses the scheme validation, authentification and authorization checks, as well as the validation of business rules pursuant to the Swiss Payment Standards, which leads to a reject of the entire direct debit file (A-level). The authentification and authorization checks are not performed on this Test Platform.
- The second and final validation (in case that the entire or a part of the direct debit file has been transferred to SIX) will be performed by SIX Interbank Clearing AG ("SIX"). The SIX validation focusses on the full scheme and business rules validation pursuant to the Swiss Payment Standards.

The two-step validation means that the status report (pain.002) may be composed of two different pain.002 messages (UBS pain.002 and SIX pain.002).

Please consult the <u>UBS Implementation Guidelines of pain.008-CHTA</u> (Swiss Direct Debits LSV+/BDD) and the sample library on the Test Platform for further information.

For further details concerning the two-step validation see chapter 3.4.

3 Create Status Reports (pain.002)

3.1 Introduction

Note: The status report pain.002 is available for the channels UBS Switzerland AG / KeyPort, UBS Europe SE KeyPort and UBS Switzerland AG.

In order to create a status report, at least one payment initiation message must be uploaded beforehand. Alternatively, one of the predefined examples can be imported (for details please see chapter 2 Validate Messages).

Status report pain.002 messages are generated during validation of a payment method in accordance with the validation result.

For uploaded payment initiation messages which do not have any error you can create various kinds of status report messages based on predefined simulation scenarios.

3.2 Automated status report creation in the course of validation



Screenshot 4

- 1. Select menu item "status report"
- 2. View already created status reports online
 - Click on the row of an uploaded payment initiation message, all status report simulations which are previously executed will be shown to the right. Clicking on a simulation displays the resulting pain.002 message in the bottom area of the screen.
 - Clicking on a pain.002 message displays the contents of the message on the right-hand side.
 - The contents can either be displayed as XML or in a tree-like view. In the tree view, you can collapse sections of the message by clicking on the small arrow to the left of the tag name.
- 3. Download pain.002 message(s) for the selected simulation

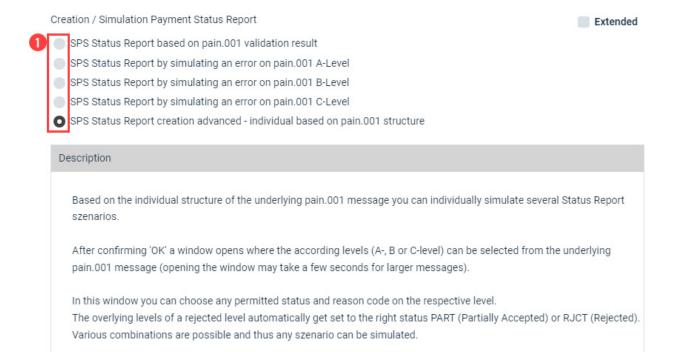
3.3 Individual and advanced status report simulation

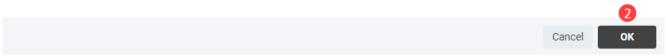
Click the button "New" (see previous screenshot) and a pop-up window appears, allowing you to choose predefined simulation scenarios to create various kinds of status reports.

Note: All the scenarios illustrated with the following screen are available only in case that the preselected payment initiation message does not contain any error. In case of errors, the status report created according to the validation result is the only option.

Pick a simulation scenario

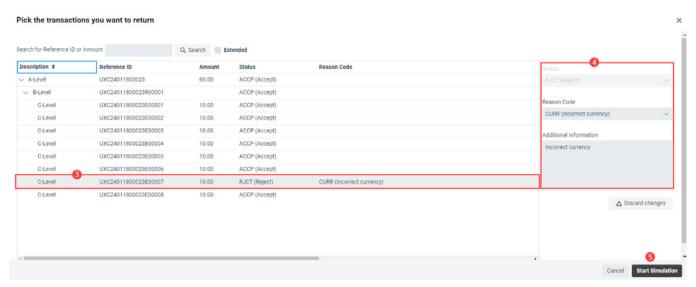
×





Screenshot 5

- 1. Choose one of the available scenarios (please consider the references within the description section)
- OK confirm scenario selection
 Status report creation starts immediately with the exception of the "advanced creation" (last scenario in the list).
 For the advanced creation the following window opens to create any kind of status report message pain.002.



Screenshot 6

If required, repeat steps 3 to 5 several times:

- 3. Click on the level/entry you want to reject (A-, B- or C-Level)
- 4. Specify reject details as required Settings that have been made are checked by the system and applied to the structure of the original message.
- 5. Start simulation

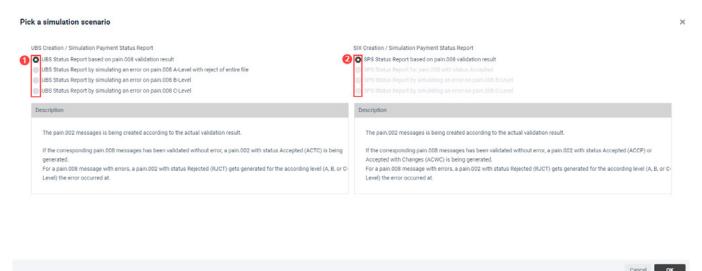
3.4 Simulation of the two-step validation status report

Click the button "New" and a pop-up window appears where you may choose predefined simulation scenarios to create different types of status reports.



Screenshot 7.1

Note: All the scenarios illustrated with the following screen are available only in case that the preselected payment initiation message does not contain any error. In case of errors, the status report created according to the validation result is the only option.



Screenshot 7.2

- 1. Choose one of the available UBS scenarios (please consider the references within the description section)
- 2. Depending on the chosen UBS options the SIX options available for selection may vary.

 The pictures on the following page visualize the main use cases in the cooperation of the two validation instances.
- 3. OK confirm scenario selection

Subsequently the main use cases are shown on the pictures:

Key:

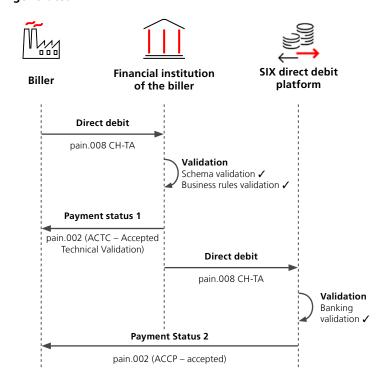
ACCP: accepted

ACTC: accepted technical validation (UBS only acknowledge receipt of the file after a purely technical validation)

ACWC: accepted with change PART: partial rejection of the file

RJCT: rejected

Use case: Ideal scenario (no rejection) - two pain.002 generated



- 1. The biller collects their receivables via direct debit.
- 2. The biller's financial institution checks the direct debit.
- 3. The biller's financial institution returns the validation result to the sender.
- 4. The biller's financial institution delivers the direct debit file to the SIX direct debit platform.
- 5. The SIX direct debit platform checks the direct debit.
- The SIX direct debit platform returns the final validation result to the sender via the biller's financial institution.

Figure 2

Use cases: rejection of entire file at UBS and no forwarding to SIX – one pain.002 is generated.

Biller Financial institution of the biller of the biller Direct debit

Direct debit

pain.008 CH-TA

Validation not OK
Schema validation and/or business rules validation result to the sender.

Payment status

Financial institution SIX direct debit platform

Validation not OK
Schema validation and/or business rules validation

pain.002 (RJCT – rejected)

Figure 3

Use cases: Partial processing at UBS and forwarding to SIX – two pain.002 generated

Financial institution Biller platform of the biller Direct debit pain.008 CH-TA Validation partially OK Schema validation ✓ Business rules validation partially not OK Payment status 1 pain.002 (PART partial rejection) **Direct debit** pain.008 CH-TA Validation OK/not OK Business rules validation Payment Status 2 pain.002 (ACCP, ACWC, PART oder RJCT - accepted,

accepted with changes, partial rejection or rejected)

- 1. The biller collects their receivables via direct debit.
- 2. The biller's financial institution checks the direct debit.
- The biller's financial institution returns the validation result to the sender.
- 4. The biller's financial institution delivers the direct debit file to the SIX direct debit platform.
- 5. The SIX direct debit platform checks the direct debit.
- The SIX direct debit platform returns the final validation result to the sender via the biller's financial institution.

Figure 4

Use case: UBS ohne und SIX mit Validierungsfehler(n) – zwei pain.002 erzeugt

- 1. The biller collects their receivables via direct debit.
- 2. The biller's financial institution checks the direct debit.
- 3. The biller's financial institution returns the validation result to the sender.
- The biller's financial institution delivers the direct debit file to the SIX direct debit platform.
- 5. The SIX direct debit platform checks the direct debit.
- The SIX direct debit platform returns the final validation result to the sender via the biller's financial institution.

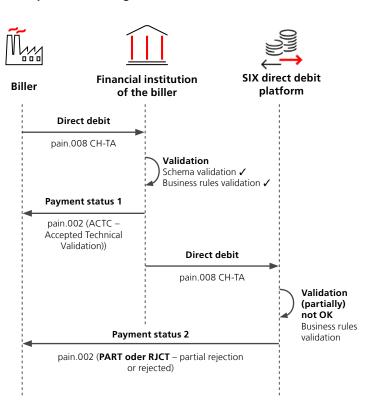


Figure 5

4 Create Cash Management Messages (camt)

4.1 Introduction / Supported cash management messages

To create a cash management message such as an account statement, at least one of the following steps has to be done before:

- upload a message (see chapter "Validate Messages")
- import an example (see chapter "Validate Messages")
- upload or import one of the Excel templates to simulate received payments (see chapter "3 Simulate Received Payments") or
- at least one valid Swiss QR-bill must be uploaded (see chapter "6 QR-bill Validation and Received Payment Simulation")

Depending on the channel the following reporting scenarios are available:

	UBS Switzerland AG/KeyPort	UBS Switzerland AG/E-Banking File Transfer	UBS Europe SE/KeyPort
 End-of-day account statement: camt.053: account statement with single booking camt.053: account statement with batch booking, no details camt.053: account statement with batch booking, details internally within camt.053 camt.053 and camt.054: account statement with batch booking, details externally within camt.054 	х	х	х
Intraday account report: • camt.052: account report with single booking • camt.052: account report with collective booking, no details • camt.052: account report with collective booking, details internally within camt.052 • camt.052 and camt.054: account report with collective booking, details externally within camt.054	x		х
Intraday credit and debit advice: camt.054: single advice camt.054: collective advice without details camt.054: collective advice with details	х		

Tabele 5

Since the workflows for creating an account report, an account statement and a credit or debit advice are identical in terms of use, only creating an account statement is described in detail in this chapter.

There is no need to maintain any master data in the application. All the necessary information is extracted from the data you have uploaded. The account number is extracted from the B-Level for all uploaded pain.001 and pain.008 payment messages. For received payments (e.g., QR-bill) the "booking account" is taken from the respective Excel file.

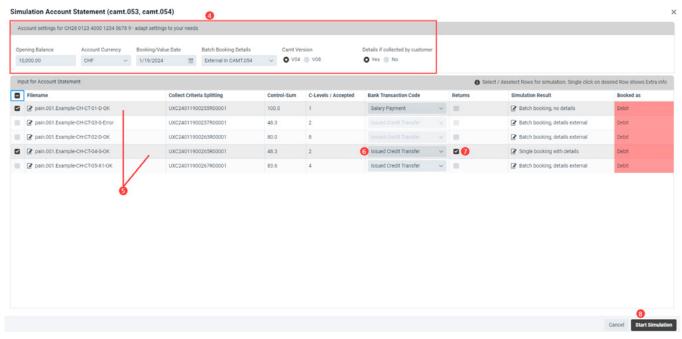
4.2 Choose data and perform simulation



Screenshot 8

- 1. Click menu item "Account Statement"
- 2. Choose an account
 This list contains all accounts that have been extracted from the B-levels of the uploaded pain messages, the imported pain examples, and the imported or uploaded Excel templates.
- 3. Click "New" to start the simulation workflow

Please note: Each row within the following list corresponds to one B-Level of a pain message or one Excel template you previously uploaded or imported.



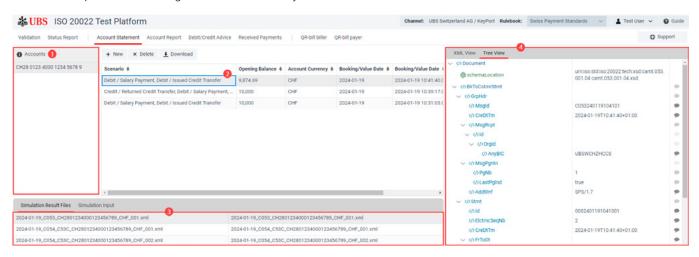
Screenshot 9

- 4. If needed, you can change the account parameters here. Hover your mouse over the info symbol to display a short description of the options.
- 5. Choose the rows that should be used as a basis for the simulation (you can select multiple). In the list all B-Level-Ids from pain messages as well as the collect criteria for the simulation of incoming payments from all Excel sheets/files that match the selected account in step 2 will be displayed each as one row. You can select or deselect certain rows by clicking on them. The file which has been uploaded last is preselected. Only data of selected rows will be used as input for the simulation.
 - If a certain row cannot be selected, hover on the info symbol at the beginning of the row to find out why that's the case.
- 6. Issued credit transfers based on uploaded pain.001 messages can be treated as received payments by "changing the direction." This option is not available for payments of QR-bills. Separate Excel templates and the QR-bill validation (chapter 6) are available for each of these.
- 7. If desired, payment returns and charge-backs can be simulated also. Simulation for payment returns is available for issued credit transfers, simulation of charge-backs is available for issued direct debits.
- 8. Start simulation

4.3 View and download simulation results

After the simulation has finished, you can view the resulting camt messages directly in your browser. You can also download the results.

The various options for viewing the results are briefly covered here.



Screenshot 10

- 1. When you click on an account, all simulations you have executed previously will be shown to the right.
- 2. Clicking on a simulation displays the resulting camt messages in the bottom area of the screen.
- 3. Clicking on a message displays the contents of the message on the right-hand side.
- 4. The contents can either be displayed as XML or in a tree-like view. In the tree view, you can collapse sections of the message by clicking on the small arrow to the left of the tag name.



Screenshot 11

5. View simulation input

In the bottom area you can choose between viewing the simulation result messages or the simulation input. The simulation input view shows the relevant parameters of the simulation in a concise way to trace what has been simulated.

5 Simulate Received Payments

5.1 Introduction / Supported payment types

This area allows you to create incoming payments to later use them in the booking/cash management simulation.

The data can be provided to the system in an Excel sheet with a predefined structure. An example to get you started is provided for each payment type. You can edit the data in the sheet directly in your browser, or you can download it and edit it on your desktop, and upload it again after you are finished.

The following Excel templates are currently available within the Test Platform:

Credit due to payment slips:

- **QR-bill** with QR reference
- **QR-bill** with creditor reference
- **QR-bill** without reference

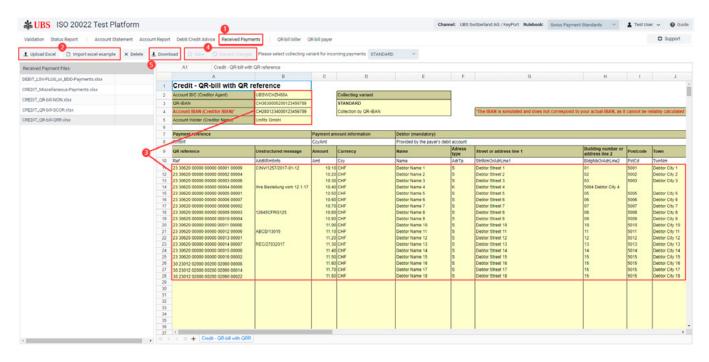
Debit due to LSV+/BDD procedure:

LSV+/BDD – debit due to LSV+/BDD, procedure using LSV reference

Please note: To simulate credits based on LSV direct debit collections you can use an uploaded pain.008-CHTA message. So therefore, no Excel template is needed. The credit is always simulated for all collections specified in the pain.008 message, i.e., the simulation assumes that all LSV collections are paid and booked together on the same day.

5.2 Create received payments

By importing an Excel example from the library or by uploading a self-created one or the successful validation of a QR-bill, all contained data are stored within the Test Platform. Subsequently these data are available to simulate different types of cash management messages (see appropriate chapter for a detailed description). If a sheet has been used in a simulation, it can't be edited anymore (symbolized by a small lock icon after the file name). The sheet can be downloaded for later use, though, or you can import the provided example again.



Screenshot 12

- 1. Select menu item "Received payments"
- 2. Import an example or upload Excel You'll start with sample data provided by the Test Platform. On the right-hand side of the screen you can see the provided sample payments.
- 3. Edit the payments
 You can edit the payments to fit your needs directly in the browser.
- 4. Save your changes

After uploading a file or importing an example, the data will be available immediately for the simulation of cash management messages. If you've made changes to the sheet (change data, remove rows or add rows), you need to save the data. The data will be checked for errors, if no errors are found, it will be available for the simulation.

5. Download the file
If you've changed the sheet to your needs, it is advisable to download it so you can use it at a later point again.

6 QR-bill – Validation and Received Payment Simulation

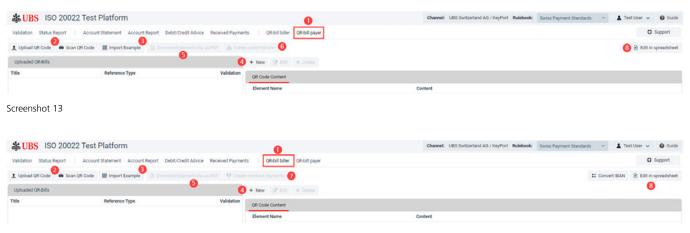
6.1 Introduction

The functionality "QR-bill" is used to validate the QR-bills and create incoming payments for later use in the booking / cash management simulation. It's available in channel UBS Switzerland AG / KeyPort.

QR-bills can be uploaded in PDF format and QR codes can be uploaded as an image or scanned using the webcam. After successful validation of the QR-bill, the data is visualized. At the same time the content is processed into Excel files and can be used for the simulation of incoming payments. For details see chapter 5.

Please note: For scanning QR codes the following browsers are supported by the Test Platform: Microsoft Edge, Chrome and Firefox.

6.2 Upload / Scan QR codes



Screenshot 14

- 1. Select menu item "QR biller/QR-bill payer".
- Upload QR-bill or scan it using your webcam Supported file formats for uploading: PDF, JPEG, PNG, GIF, BMP, WBMP PDF documents with multiple QR codes

When scanning please keep in mind that:

- only Microsoft Edge, Firefox and Google Chrome browsers are supported
- you must ensure the browser has permission to access the webcam
- approximately horizontal orientation and sufficient light facilitate the process
- the code should be available in sufficient quality on non-transparent paper
- 3. Import exampels from the online sample library (multiple selection possible).
- 4. You must enter QR-bill data via spreadsheet or edit it in PDF format.
- 5. Generate and download payment slips.
- 6. Create received payments as Excel-file. Here can be already selected the collective variant.
- 7. A pain 001 is generated from the QR-bill data.
- 8. Process QR-bill data in a structured Excel spreadsheet.

