Test Handbook for Network Partners

Change History

Version	Date	Changes
0.1	July 2, 2019	First draft
0.2	August 22, 2019	Feedback incorporated after review
0.3	September 17, 2019	Feedback incorporated after second review round
1.0	January 10, 2020	Final version - Bank port examples added

Information

SIX reserves the right to amend this document as required within the framework of the conditions agreed upon.

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The document has been prepared with utmost care, but errors and inaccuracies cannot be completely ruled out. SIX cannot assume any legal responsibility or liability for errors or their consequences.

Should you encounter any errors in this document or have any suggestions for improvements, we would be grateful if you e-mailed your feedback to support.billing-payment@six-group.com.

Target group

The Handbook for Network Partners is aimed at providers of services relating to electronic invoicing that wish to make the eBill service available to their customers (invoice issuers) via the central eBill infrastructure.

Purpose

The "Test Handbook for Network Partners" is a supplement to the Handbook for Network Partners and the Technical Instructions for Onboarding. It documents the test aspects for connection as a network partner.

Contents

1 Introduction

The eBill service enables electronic invoicing, invoice receipt and invoice payment. More than a million users are already receiving their invoices digitally via online banking and paying them conveniently, reliably and on time in the same way. The eBill service encompasses all forms of electronic invoices, reminders, credit notes and notifications – known collectively as transactions – delivered to the eBill infrastructure by network partners and received online by invoice recipients. In eBill, network partners choose the most efficient type of invoicing and can thereby build up their ranges of digital services for their customers.

The benefits:

- eBill is the secure alternative to invoicing via e-mail

- Participating in eBill is easy

- Searching for and finding customers wishing to switch to eBill is easy

- Integrating eBill in ERP and e-commerce solutions is simple thanks to standardized interfaces and processes

Network partners are part of the eBill network and thus can enable their invoice issuers to send electronic invoices to online banking users. Network partners communicate with the eBill infrastructure via a simple interface. This interface allows the network partner to communicate with the eBill infrastructure. This makes it a central point of entry for delivering digital invoices to the banking channel.

2 Test infrastructure

This section describes the test and verification infrastructure available, as well as the procedures, processes and rules for use and reporting.

2.1 Overview of eBill infrastructure

Participants in the eBill service can access the eBill infrastructure via a range of interfaces. The most important are explained in brief here.
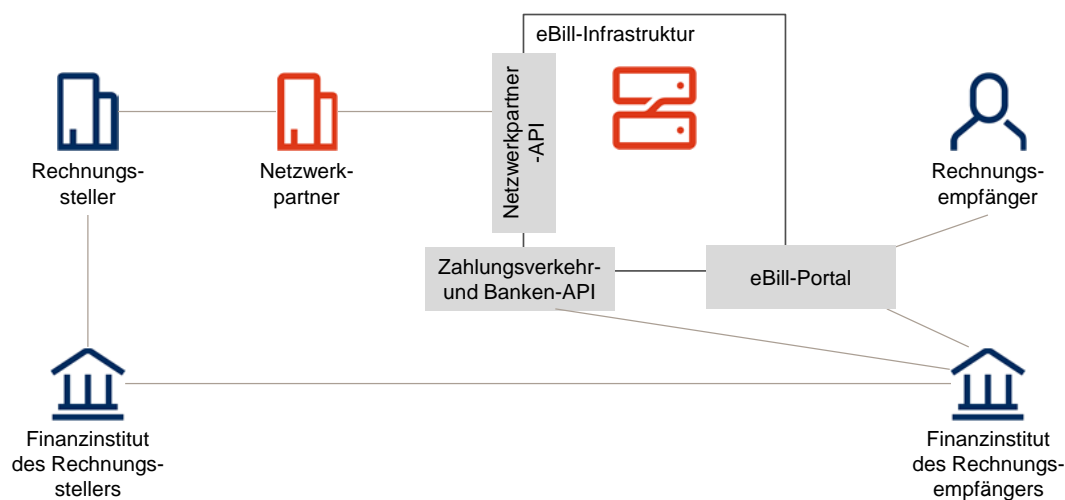
2.1.1 Network partner API

Network partners are connected to their customers via the network partner API (NWP API). All reports are exchanged with these participants via this interface (transactions, status reports, registrations etc.).

2.1.2 Bank API

The bank API is a web service interface for the invoice recipient financial institutions enabling them to link their online banking systems to the eBill infrastructure.

2.1.3 Payment transaction interface

Invoice recipient financial institutions receive payment information from the eBill infrastructure via the payment transaction interface on the basis of approved transactions.

2.1.4 eBill portal

The eBill portal is a central web application for payment recipients that can be used by all participating financial institutions. It enables payment recipients to use eBill functions over the Internet. For end-to-end tests, the eBill portal can also be accessed via the bank portal.

2.2 Test environment

Implementation by the network partner is not monitored or supervised by SIX and is entirely the responsibility of the network partner in question.

The network partner is granted access to a comprehensive test infrastructure (test system) for support.

The following levels of the eBill infrastructure are usually available to the network partner. These can be reached through various subscription endpoints:

XE level:

External acceptance/development stage. Contains the current development release stage of the eBill infrastructure. New features are provided every three weeks and can be used for integration work immediately.

XP level:

External acceptance/production stage. Contains the same release stage as the current production environment.

2.3 Use restrictions

No confidential data

The X levels are available to all network partners in parallel, and the user authorizations and access rights do not correspond to operational requirements. Therefore, no confidential data (productive data) may be used as test data when testing the X levels.

No performance, stress or mass tests

The X levels are not designed for performance, stress tests or other mass tests. Appropriate test requirements must be explicitly agreed and scheduled with eBill Support.
The following general conditions must be complied with:

- The NWP must inform SIX of any performance tests with sufficient advance notice (approximately 14 days).
- SIX must be notified of the objective of the test.
- No productive data may be used for performance tests.
- SIX must be notified of the start and end of the performance test.
- There is no guarantee as to the availability of the test levels. It is possible that the test level may not available at short notice.

2.4 Setting up the connections to the test systems

For access to the eBill infrastructure via the network partner API, various preparatory work and configurations are necessary on the part of both the network partner and SIX.

Please refer to the document "Network Partner Onboarding – Technical Instructions" for information on setting up the connections.

2.5 Software and release status

The software status at XP level corresponds to the current productive software status.

New or further developments of the eBill platform are first approved internally by SIX and then made available at XE level for external testing. Changeover from XE to XP level takes place only shortly before the productive release.

2.6 Access to the eBill bank portal

In addition to setting up the connections, the network partner can also apply for access to the eBill bank portal at XE and XP level.

With access to the eBill bank portal, a network partner can independently test the NWP functionality end-to-end. For this purpose, SIX sets up a dedicated financial institution for each network partner.

Access to the eBill bank portal requires a personal SuisseID certificate. Each user must request such a certificate from the manufacturer.

A maximum of five users of a network partner can be authorized per test level (XE/XP).

In order for SIX to be able to set up access to the eBill bank portal, the NWP main contact person must send us the following information by e-mail:
- First name, surname and e-mail address(es) of the user(s) to be authorized to access the eBill bank portal.
- Desired test level (XE/XP). It is best to authorize the user for both systems at the same time.
- An export of the SuisseID certificate in the form of a .cer file.
- This information can be sent to Support (support.billing-payment@six-group.com) or directly to the technical contact person.

2.6.1 Functions in the eBill bank portal and eBill portal

The eBill bank portal is a web application that allows user to carry out selected administrative functions in connection with the administration of invoice issuer and invoice recipient data in the eBill service. The eBill bank portal (XE and XP level) can also be directly accessed from the eBill portal for testing purposes for a specific invoice recipient.

Below are the most important functions available to a network partner in the eBill bank portal:
- Setting up new e-banking users (test customers)
- Overview of own e-banking users and their details
- Overview of business transactions of own e-banking users and details
- Overview of payment instructions
- Rejection/approval of payment instructions on behalf of the test bank for status changes
- Overview of all invoice issuers and their details
- Subscription, including direct ISR subscription to an invoice issuer's system
- Access to the eBill portal for a specific e-banking user

All functions that are available to a real invoice recipient are also available in the eBill portal. This includes:
- Overview of invoices
- Subscription to an invoice issuer's system
- Approval of an invoice
- Rejection of an invoice
- Viewing invoice details
- Viewing supplementary documents
- Entering a standing approval arrangement

Individual test functions are listed in detail below.
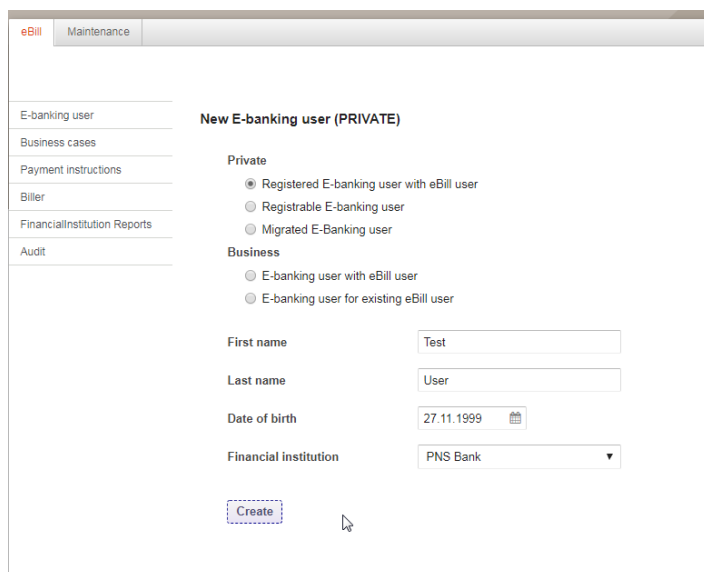
Setting up new e-banking users

The test user can use this function to set up new e-banking users:
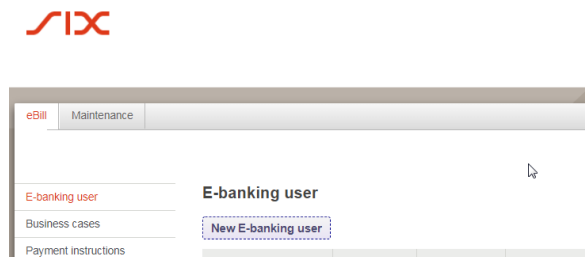
After selecting the function, the test user can register a new private e-banking user or a new ebill user business considering the following options:

- Private:
    - "Registered E-banking user with eBill user": The e-banking user is fully registered as an eBill user for the use of the eBill service (eBill portal).
    - "Registrable E-banking user": The e-banking user must go through the registration process in order to use the eBill portal.
    - "Migrated E-Banking user": A migrated e-banking user must go through the registration process in order to use the eBill portal.
- Business
    - "E-banking user with eBill useruser": a new eBill User Business (this user corresponds to a company) with an e-banking user to access eBill for this company is registered.
    - "E-banking user for existing eBill user": Additional e-banking user to access a company can be registered.
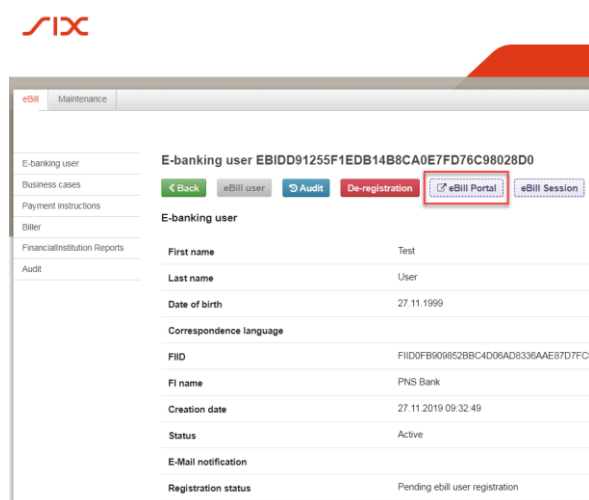
The financial institution to be selected is the corresponding NWP Test Bank, which will be opened by SIX for the NWP. After being set up, the e-banking user is displayed in the eBill bank portal and it will be possible to follow a link to the eBill portal:

Subscription to invoice issuer's system

The test user can use this function to log invoice recipients in to the invoice issuer's system. Alternatively, the invoice recipient can subscription using the eBill portal. To simulate a direct ISR subscription from e-banking, the function must be used in the eBill bank portal. After selecting a previously created e-banking user, the function can be accessed under the details.

1. Select an e-banking user to access the details of the eBill user:

2. In the eBill user details under section "Biller subscription form" the subscription function can be accessed by clicking on "Subscribe":

3. The overview of available invoice issuers is displayed. By selecting an invoice issuer from the list, the invoice recipient can be subscribed. If the direct subscription from e-banking is to be simulated, the ISR reference and an account must be specified:

4. After successful subscription, the relationship is displayed with "Requested" status under the eBill user details:

If the invoice issuer uses a subscription form, this is displayed under "Rechnungssteller Anmeldeformular" and can be opened there. Opening the subscription form is limited in time, i.e. once the notice period has expired, a new subscription form can be created.

Payment instructions

So that a test user is able to change the status of the business case from the Bank view, it is possible to simulate pain.002 messages in the bank portal. After a business case has been approved in the eBill portal, the test user can access the business case details in the eBill bank portal via the business case of the corresponding eBill user:

The overview of payment instructions for the corresponding business case can be accessed with the "Payment instructions" button:

After selecting a payment instruction, the details are displayed. The pain.001 message that was sent to the bank after the business case was released is listed under "Messages". To confirm the pain.001 message, you can use the "Create PAIN002-Message" function.

Before creating the pain.002 message, you must select the status for confirmation. The following statuses are available for selection:

- ACCEPTED_VALIDATION: pain.001 message was successfully validated.
- SETTLED: pain.001 message was successfully processed.
- REJECTED: pain.001 was rejected.
- DELETED: payment instruction was deleted by the e-banking user.

After the pain.002 message has been created, it is listed under "Messages":

Payment instruction

Type	Manual approval	Value date	2019-11-28
Status	Validated	Reference number	09876500000000000000000006
Creditor name	OneCommunication (OC) AG	Amount	451.1
Creditor account type	ESR	Currency	CHF
Creditor account	012966996		
Debtor name	User Test		
Debtor account type	IBAN		
Debtor account	CH3600000000000000000		
Debtor e-banking user ID	EBID3F6AD0685FD344CDAB809E30ED05FF8A		
Debtor FIID	FIID0FB909852BBC4D06AD8336AAE87D7FC9		
Debtor FI name	PNS Bank		

Messages

Creation date	Type	GrpHdr-MessageId	UUID	Status
27.11.2019 09:59:37	PAIN001	PIAfd0a4ae27aba43d4b00572bdd6745d33	b8dca14f-26f4-4324-a731-767afb80ddba	
27.11.2019 10:03:59	PAIN002	ADPO371029e7493e8b9479b0b0bc1e88	a287a9e5-21bd-460e-81b8-bf8e60c0eb7b	ACCEPTED_VALIDATION

2.7 Test data

Master data that cannot be created independently by application functions are provided by SIX in the test environment. In particular, SIX provides the following master data:

- Master data of network partners
- A dedicated financial institution for network partners to access the eBill bank portal

Invoice recipients
New invoice recipients can be set up by the network partner via the eBill bank portal.

Invoices
Business cases (invoices, notifications, reminders, etc.) can be delivered by the network partner as a PDF/A-3 via the NWP API.

2.8 Availability of the test levels

The XE and XP integration levels are always available except on Thursdays, as this day is reserved for eBill platform system maintenance/release updates/etc.

SIX also reserves the right to use the XE level exclusively for internal test and verification processes as part of further developments and to temporarily restrict access for network partners. These time windows are kept as short as possible.

3 Integration and verification

A network partner develops and tests the interface with the eBill infrastructure independently using the documents received from SIX. Once its tests have been completed successfully, the network partner works with SIX to conduct a verification test and activate productive operation. The corresponding test definitions are provided by SIX. Successful performance of the tests is a prerequisite for verification and release for productive use.

In the first phase, the network partner independently validates and tests implementation using the test infrastructure provided by SIX (green area in figure).

In the second phase, a verification test is performed to ensure that the interface can be approved for operations (orange area in figure) SIX is in charge of this test.

Legend for figure

1. The network partner develops the interface with the eBill infrastructure based on the documents provided.

2. The network partner conducts a technical integration test on the interface.

3. The network partner uses the test system to test the interface that it has developed.

4. Once all test cases have been run through and tested successfully, the network partner contacts SIX for the verification test.

5. SIX coordinates the verification test with the network partner.

6. The verification test is performed collaboratively under the direction of SIX. SIX draws up a verification log for the purpose.

7. SIX adopts the configuration from the test environment for the production environment.

8. The network partner stipulates the time for approval of the production environment and notifies SIX accordingly.

9. SIX activates the network partner for the production environment at the appointed time.

10. Once this process is complete, the network partner can offer its customers the eBill service (electronic invoices, reminders, credit notes and notifications).
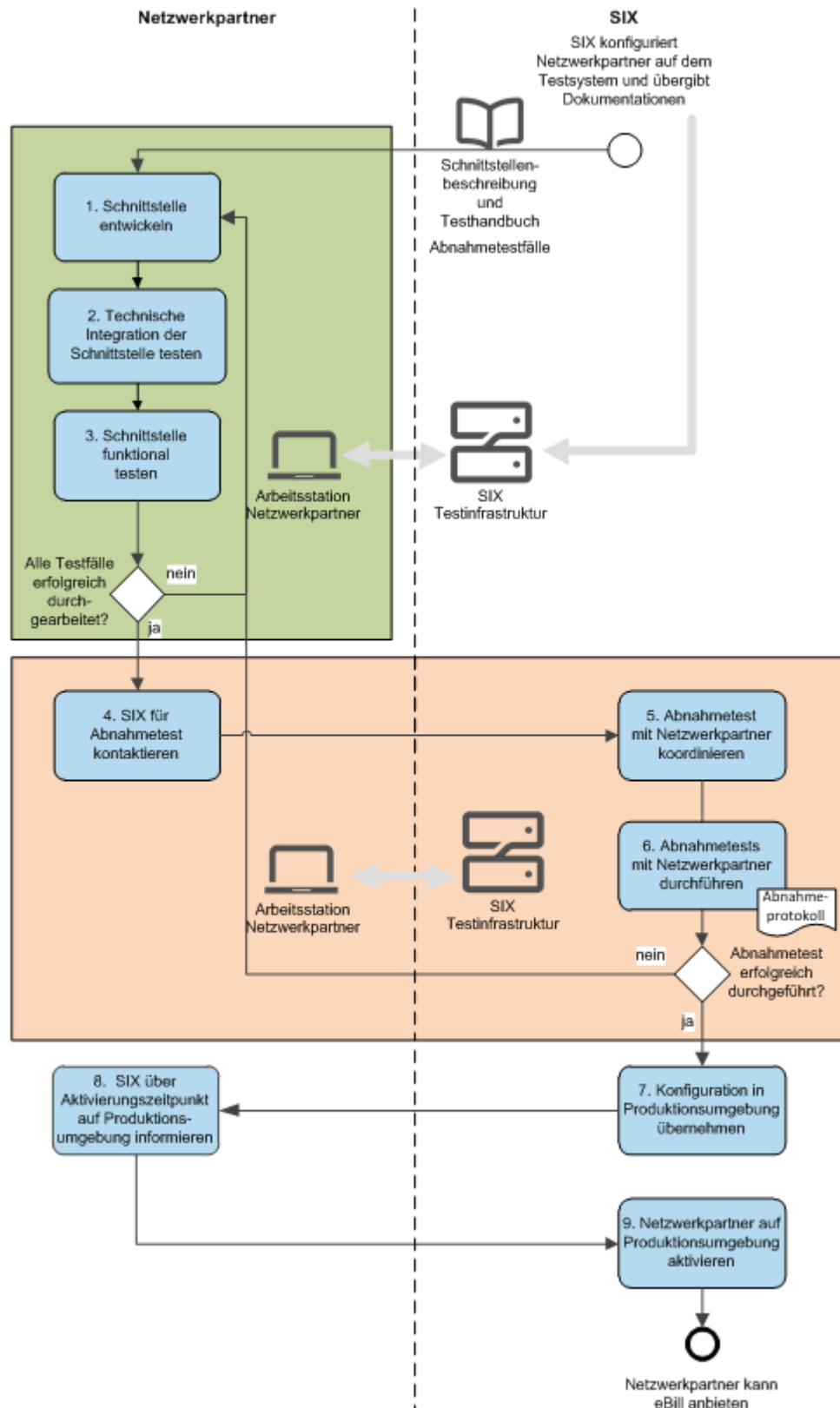
3.1 Collaborative verification test

Once the network partner has successfully completed the independent integration tests, a collaborative verification test is carried out (orange area in the figure). The network partner informs the SIX project manager that they are ready for a verification test.

The collaborative verification test checks the functional use cases, or the interfaces, with end-to-end tests between the network partner and SIX. The collaborative verification test is always carried out by SIX employees and can take place on the premises of the network partner or by telephone. Further information and requirements concerning onboarding can be found in the Technical Onboarding Specifications.

Once verification is complete, the network partner is configured for productive operation and activated at the time agreed upon.

3.2 Retesting network-relevant functions

Retesting is performed whenever a new network-relevant function is introduced or an existing one changed. The network partner tests the new functions or changes to network-relevant functions itself.

3.3 Performance of test and test evidence

The network partner is responsible for carrying out the verification and release tests.

The test evidence can be provided in different ways and is different depending on the test cases to be carried out:

Self-declaration

The simplest form is self-declaration by the network partner. Test cases in this category do not require any additional control by SIX and fall entirely under the responsibility and expertise of the network partner. They are marked with "**SD**" in the test cases.

Self-declaration with evidence

This category is intended for network-relevant functions that must be implemented. The network partner carries out the corresponding tests independently, but provides test evidence as a result (e.g. screenshot, log excerpt, etc.). They are marked with "**SDE**" in the test cases.

3.4 Prerequisites and entry criteria for verification

In order to enter the verification process, various prerequisites and entry criteria must be fulfilled:

- Complete technical connection at XP test level

- Complete application configuration at XP test level

- The network partner has completed implementation according to the specifications and worked through the verification test cases provided by SIX independently and successfully.

Subscription

If the entry criteria are met, the network partner registers with SIX for the verification and activation process and agrees a verification date with the SIX project manager or the person responsible for the SIX verification test.

Preparation

The network partner is responsible for the preparation of the verification tests:

- Determination of one or more verification test representatives

- Complete configuration and test of access to eBill test platform (NWP-API)

- Provision of test data

3.4.1 Termination criteria

Various situations can lead to the termination of the current verification and to a necessary replanning of the verification:

- Critical implementation errors on the part of the network planner

- Systems on the part of the network partner are not ready or cannot be provided within two hours

- The eBill and/or necessary platform accesses are not available or cannot be made available within two hours

3.4.2 Reporting and test completion

The results of the verification test are recorded by SIX in a verification test report and are submitted to the network partner for countersignature/confirmation (in writing or electronically).

The network partner may comment on the report if they do not agree with the result or if they want to make additions.

The verification test report forms the basis for the activation of the network partner for production, or for determining the further procedure.

4 Network partner function test cases

This section describes the eBill functions of the NWP API. All details such as resources, technical operations, payload definitions, validation information etc. can be found in the detailed technical OpenAPI specifications and the documentation of the content of the structured information from the eBill format.

Network-relevant functions of the NWP API are marked with a ***** and must be implemented and documented with evidence by the network partner.

Test evidence is provided as self-declaration (**SD**) or as self-declaration with evidence **SDE** (see section: 3.3Performance of test and test evidence).

4.1 Query system status

Requests information about the system status (can be used as a health check for the eBill infrastructure).

ID	Brief description of test	Declaration	Conditions	Action	Expected result	Test result/outcome (OK/NOK/Skip)
1.1	Query system status	SD	Access to the eBill infrastructure via the network partner API is established.	Submit request for query system status health check.	Request is successfully processed. Authentication and authorization was successful.	

4.2 Query sectors

Sectors are valid across the system and are managed in the eBill infrastructure. The network partner assigns one or more sectors to an invoice issuer during data entry.

ID	Brief description of test	Declaration	Conditions	Action	Expected result	Test result/outcome (OK/NOK/Skip)
2.1	Query sectors	SD	Access to the eBill infrastructure via the network partner API is established.	Submit request for query sectors (sector).	Request is successfully processed. Valid sectors are sent in ger, fre, ita and eng.	

4.3 Query invoice issuer

The network partner can query the invoice issuers connected to the eBill infrastructure. The network partner receives a list with all invoice issuers and can search it for the desired information.

With the exception of the subscription URL, every network partner can see all the information of an invoice issuer. Only the primary network partner sees the subscription URL.

ID	Brief description of test	Declaration	Conditions	Action	Expected result	Test result/outcome (OK/NOK/Skip)
3.1	Query public data of all invoice issuers.	SD	Access to the eBill infrastructure via the network partner API is established.	Submit request for query invoice issuer without invoice issuer ID.	A list of all invoice issuer connected to the eBill infrastructure is sent.	
3.2	Query detailed data of an invoice issuer.	SD	Access to the eBill infrastructure via the network partner API is established. Invoice issuer is registered. Network partner is assigned as primary NWP for this invoice issuer.	Submit request for query invoice issuer with invoice issuer ID (biller ID).	Only the detailed information on the desired invoice issuer is sent.	

4.4 Register invoice issuer*

This use case is a central element of the services provided by SIX and enables invoice issuers to be onboarded for the eBill service.

ID	Brief description of test	Declaration	Conditions	Action	Expected result	Test result/outcome (OK/NOK/Skip)
4.1	Set up/register a new invoice issuer without own subscription form.	SDE	Access to the eBill infrastructure via the Network Partner API is established. Invoice issuer is not yet be connected via another NWP.	Register new invoice issuer on the eBill infrastructure. - Name of invoice issuer - CR UID - Contact data for all languages (ger, fre, ita, eng) display name, address data, logo, e-mail address, tel. number - Sector(s) - Account information	Invoice issuer is set up with the desired data elements. Invoice issuer ID is reported back.	

4.2	Set up/register a new invoice issuer with own subscription form with the network partner itself.
	
	(optional if the invoice issuer does not use own forms)
		SDE	Access to the eBill infrastructure via the Network Partner API is established. Invoice issuer is not yet be connected via another NWP. Subscription forms are set up for the invoice issuer.	New registration of invoice issuer on the eBill infrastructure
				- Name of invoice issuer
				- CR UID
				- Contact data for all languages (ger, fre, ita, eng)
				  o Display name
				  o Address data
				  o Logo
				  o E-mail address
				  o Tel. number
				- Sector(s)
				- Account information
				- Subscription URL
					Invoice issuer is set up with the desired data elements.
					Invoice issuer ID is reported back.	

4.5 Edit invoice issuer data*

This use case is a central element of the services provided by SIX and makes it possible to keep invoice issuer data up to date. Invoice issuer data can be managed only by the primary network partner.

ID	Brief description of test	Declaration	Conditions	Action	Expected result	Test result/outcome (OK/NOK/Skip)
5.1	Invoice issuer data element correctly updated.	SDE	Invoice issuer is fully registered and the acting NWP is the primary NWP.	Change legal name.	Name is correctly changed.	Previous: Updated:
5.2	Invoice issuer data element correctly updated.	SDE	Invoice issuer is fully registered.	Change UID number.	VAT number is correctly changed.	
5.3	Invoice issuer data element correctly updated.	SDE	Invoice issuer is fully registered.	Change German contact data: - Display name - Address - E-mail address - Tel. number	German contact data is correctly changed.	
5.4	Invoice issuer data element correctly updated.	SDE	Invoice issuer is fully registered.	Change French contact data: - Display name - Address - E-mail address - Tel. number	French contact data is correctly changed.	
5.5	Invoice issuer data element correctly updated.	SDE	Invoice issuer is fully registered.	Change Italian contact data: - Display name - Address - E-mail address - Tel. number	Italian contact data is correctly changed.	
5.6	Invoice issuer data element correctly updated.	SDE	Invoice issuer is fully registered.	Change English contact data: - Display name - Address	English contact data is correctly changed.	

				- E-mail address	
				- Tel. number	
5.7	Invoice issuer data element correctly updated.	SDE	Invoice issuer is fully registered.	Change sector and add an additional sector.	Sector is correctly changed/added
5.8	Invoice issuer data element correctly updated.	SDE	Invoice issuer is fully registered.	Change account data and add an additional account.	Account is correctly changed/added.

4.5.1 Change invoice issuer data logo*

This use case is a central element of the services provided by SIX and makes it possible to keep invoice issuer data up to date.

Invoice issuer data can be managed in full only by the primary network partner.

ID	Brief description of test	Declaration	Conditions	Action	Expected result	Test (OK/NOK/Skip)	result/outcome
6.1	Invoice issuer data element correctly updated.	SDE	Invoice issuer is fully registered.	Replace invoice issuer's logo.	Logo is correctly replaced.		
6.2	Invoice issuer data element correctly updated.	SDE	Invoice issuer is fully registered.	Delete invoice issuer's logo.	Logo is deleted.		
6.3	Invoice issuer data element correctly updated.	SDE	Invoice issuer is fully registered. The invoice issuer does not have a logo.	Add invoice issuer's logo.	Logo is added.		

4.5.2 Deregister invoice issuer*

This use case is a central element of the services provided by SIX and makes it possible to deregister an invoice issuer from the eBill service. Invoice issuer deregistrations can be performed only by the primary network partner.

When an invoice issuer is deregistered, it is not deleted but set to "inactive" in the system. As a result, it can no longer deliver transactions or be found on the list of invoice issuers in the eBill portal.

ID	Brief description of test	Declaration	Conditions	Action	Expected result	Test (OK/NOK/Skip)	result/outcome
7.1	Deactivate eBill for invoice issuer.	SDE	Invoice issuer was set up in the eBill infrastructure. Status is ACTIVE.	Deactivate eBill for invoice issuer.	Invoice issuer now has inactive status and is no longer visible in the invoice issuer list.		

4.6 Deliver supplementary II document

This use case is a supporting element of the services provided by SIX and enables the primary network partner to create supplementary invoice issuer documents that have to be attached to all invoice issuer transactions (e.g. price lists) with just one submission.

ID	Brief description of test	Declaration	Conditions	Action	Expected result	Test (OK/NOK/Skip)	result/outcome
8.1	Deliver supplementary documents for a specific invoice issuer.	SD	Invoice issuer is fully registered. eBill customer is logged in to this particular invoice issuer's system and an invoice was delivered.	Upload supplementary documents for each language (ger, fre, ita, eng) for a specific invoice issuer.	Supplementary documents can now be accessed via the bank portal for the specified invoice issuer. The supplementary documents can also be viewed in the eBill portal via an invoice.		
8.2	Deliver additional supplementary documents for a specific invoice issuer.	SD	Invoice issuer is fully registered.	Upload additional supplementary documents for each language (ger, fre, ita, eng) for a specific invoice issuer.	Additional supplementary documents can now be accessed via the bank portal for the specified invoice issuer.		

4.7 Query supplementary II document

This use case is a supporting element of the services provided by SIX and enables the network partner to see which supplementary documents its invoice issuers have, e.g. to determine the validity period of a supplementary document.

ID	Brief description of test	Declaration	Conditions	Action	Expected result	Test (OK/NOK/Skip)	result/outcome
9.1	Query information on supplementary documents of a specific invoice issuer.	SD	Invoice issuer is fully registered and already has supplementary documents.	Query supplementary documents for a specific invoice issuer via invoice issuer ID.	All information on the supplementary documents for the desired invoice issuer is reported back.		

4.8 Change invoice issuer supplementary data

This use case is a supporting element of the services provided by SIX and enables the primary network partner to change its delivered supplementary documents for its invoice issuer.

ID	Brief description of test	Declaration	Conditions	Action	Expected result	Test (OK/NOK/Skip)	result/outcome
10.1	Change supplementary documents for a specific invoice issuer.	SD	Invoice issuer is fully registered and already has supplementary documents.	Change a supplementary document for a specific invoice issuer via invoice issuer ID and attachment ID. - Presentation date - Label - Name	Supplementary documents for the specific invoice issuer are changed. - Presentation date - Label (visible in the invoice issuer's bank portal). - Name (visible in the eBill portal with an invoice).		

4.9 Delete supplementary II document

This use case is a supporting element of the services provided by SIX and enables the primary network partner to delete supplementary invoice issuer documents.

ID	Brief description of test	Declaration	Conditions	Action	Expected result	Test (OK/NOK/Skip)	result/outcome
11.1	Delete supplementary document for a specific invoice issuer.	SD	Invoice issuer is fully registered and already has supplementary documents.	Delete a supplementary document for a specific invoice issuer via invoice issuer ID and attachment ID.	Supplementary documents for the specific invoice issuer are deleted. The supplementary document is no longer visible on the invoice issuer's bank portal.		

4.10 Query invoice recipient*

This service is a central element of the services provided by SIX and supports a simplified process (initiated by the invoice issuer) for logging the invoice recipient into the invoice issuer's system for obtaining electronic invoices. This operation is also referred to as "invoice recipient look-up."

Only invoice recipients that have consented to the look-up process or have an active relationship with the invoice issuer can be found.

ID	Brief description of test	Declaration	Conditions	Action	Expected result	Test (OK/NOK/Skip)	result/outcome
12.1	Search for a possible invoice recipient.	SDE	Invoice issuer is fully registered. Invoice issuer has the invoice recipient's e-mail address.	Search for an invoice recipient by e-mail address. Search with: found@lookup.ch	The desired recipient is found. E-mail address is reported back.		
12.2	Search for a possible invoice recipient.	SDE	Invoice issuer is fully registered. Invoice issuer has the invoice recipient's customer ID, such as Paynet participant number.	Search for an invoice recipient via invoice recipient ID such as Paynet participant number (PID). Search with: 41020165119257508	The desired recipient is found. Paynet participant number (PID) is reported back.		
12.3	Search for a possible invoice recipient.	SDE	Invoice issuer is fully registered. Invoice issuer has the invoice recipient's e-mail address.	Search for an invoice recipient by e-mail address. Search with: notfound@lookup.ch	The desired participant is not found. E-mail address is not reported back.		

4.11　　　　　　Deliver business case*

This use case is a core element of the services provided by SIX. It ensures that transactions are transported from the network partner to the eBill infrastructure.

Transactions can be delivered via any network partner. Delivery results in transactions being placed in the data rooms of the network partners and invoice issuers involved.

ID	Brief description of test	Declaration	Conditions	Action	Expected result	Test (OK/NOK/Skip)	result/outcome
13.1	Delivery of an invoice.	SDE	Invoice issuer is fully registered. Invoice recipient is logged in to the desired invoice issuer's system.	Deliver invoice as PDF/A-3.	Invoice is processed and can be seen in the bank portal under "business transactions" as "invoice" with "open" status. Also visible in the eBill portal as an invoice.		
13.2	Delivery of a reminder. (optional if the invoice issuer does not deliver a reminder)	SDE	Invoice issuer is fully registered. Invoice recipient is logged in to the desired invoice issuer's system. An invoice was delivered.	Deliver reminder as PDF/A-3 with reference to an invoice that has been previously delivered.	Reminder is processed and can be seen in the bank portal under "business transactions" as "reminder" with "open" status. Also visible in the eBill portal as an invoice. The business case (details) contains a reference to the original invoice, which can be directly accessed.		
13.3	Delivery of an installment invoice. (optional if the invoice issuer does not deliver an installment invoice)	SDE	Invoice issuer is fully registered. Invoice recipient is logged in to the desired invoice issuer's system.	Deliver installment invoice as PDF/A-3	Installment invoice is processed and can be seen in the bank portal under "business transactions" as "invoice" with "open" status. Also visible in the eBill		

					portal as an invoice.
13.4	Delivery of a credit note. (optional if the invoice issuer does not deliver a credit note)	SDE	Invoice issuer is fully registered. Invoice recipient is logged in to the desired invoice issuer's system.	Deliver credit note as PDF/A-3.	Credit note is processed and can be seen in the bank portal under "business transactions" as "credit note". Also visible in the eBill portal as a credit note. Release via the eBill portal is not possible.
13.5	Delivery of a notification. (optional if the invoice issuer does not deliver a notification)	SDE	Invoice issuer is fully registered. Invoice recipient is logged in to the desired invoice issuer's system.	Deliver notification as PDF/A-3.	Notification is processed and can be seen in the bank portal under "business transactions" as "notification". Also visible in the eBill portal as a notification. Release via the eBill portal is not possible.
13.6	Overrunning invoice Deliver an invoice with reference to another business case of the same invoice issuer.	SDE	Invoice issuer is fully registered. Invoice recipient is logged in to the desired invoice issuer's system. An invoice was already been delivered and has "open" status.	Deliver invoice as PDF/A-3 with reference to a business case that has previously been delivered.	Invoice is processed and can be seen in the bank portal under "business transactions" as "invoice" with "open" status. Also visible in the eBill portal as an invoice. The referenced invoice is displayed with "completed" status.
13.7	Deliver incorrect invoice.	SDE	Invoice issuer is fully registered. Invoice recipient is **not** logged in to the desired	Deliver invoice as PDF/A-3.	Invoice is rejected and not processed. Internal process in the event of an error is

			invoice issuer's system.		triggered at the NWP.	
13.8	Deliver incorrect invoice.	SDE	Invoice issuer is fully registered. Invoice recipient is logged in to the desired invoice issuer's system.	Deliver invoice as PDF/A-3 with wrong customer PID or unknown e-mail address.	Invoice is rejected and not processed. Internal process in the event of an error is triggered at the NWP.	

4.12 Query transaction data

This use case is a supporting element of the services provided by SIX and enables the network partner to request information concerning transactions that it has initiated.

ID	Brief description of test	Declaration	Conditions	Action	Expected result	Test result/outcome (OK/NOK/Skip)
14.1	Query business case data for an invoice.	SD	An invoice was delivered and processed.	Query business case data documents for a specific invoice issuer via business case ID.	Information on the desired business case is reported back.	
14.2	Query business case data for a reminder.	SD	A reminder was delivered and processed.	Query business case data documents for a specific invoice issuer via business case ID.	Information on the desired business case is reported back.	
14.3	Query business case data for an installment invoice.	SD	An installment invoice was delivered and processed.	Query business case data documents for a specific invoice issuer via business case ID.	Information on the desired business case is reported back.	

4.13 Query transaction processing events

This use case is a supporting element of the services provided by SIX and enables the network partner to request information concerning transaction processing events and forward this information to its invoice issuers.

ID	Brief description of test	Declaration	Conditions	Action	Expected result	Test result/outcome (OK/NOK/Skip)
15.1	Query status change of business cases (invoice/reminder).	SD	An invoice/reminder was delivered and processed.	Business cases have been delivered and released or rejected. Query processing events for business case invoices.	Information on desired status changes for business cases is reported back.	
15.2	Query status change of business cases (installment invoice).	SD	An installment invoice was delivered and processed.	Business cases for installment invoice have been delivered and released, rejected. Query processing events for business case installment invoices.	Information on desired status changes for business cases is reported back.	

4.14 Obtain subscription data for the invoice recipient*

When an invoice recipient logs in to an invoice issuer's system, the network partner can obtain detailed information from SIX. This can be used to inform the invoice issuer of the subscription directly (subscription events) or prepopulate subscription forms. Depending on the type of subscription, the subscription data may also include an ISR reference number and the invoice issuer's credit account (direct subscription).

This function is network-relevant. The network partner is bound by contractual obligation to implement it and to forward the subscription data to the invoice issuer.

Subscription forms are used only for reasons of backward compatibility and are not recommended.

ID	Brief description of test	Declaration	Conditions	Action	Expected result	Test result/outcome (OK/NOK/Skip)
16.1	Query subscription data of an invoice recipient Normal subscription via eBill portal.	SDE	Subscription forms for the invoice issuer is set up. The subscription URL for the invoice issuer is stored in the eBill infrastructure.	The invoice recipient logs on to desired invoice issuer system using the eBill portal.	The invoice issuer's subscription form is accessed and displayed. The subscription form is pre-filled with the invoice recipient's details. Once the subscription has been completed, the subscription data is sent to the invoice issuer.	
16.2	Query subscription data of an invoice recipient Direct ISR subscription.	SDE	Subscription form for direct ISR subscription is set up for the invoice issuer. The subscription URL for the invoice issuer is stored in the eBill infrastructure.	The invoice recipient logs on to the desired invoice issuer system using the direct ISR subscription.	The invoice issuer's subscription form is accessed and displayed. The subscription form is pre-filled with the invoice recipient's details. The ISR reference is also displayed and the subscription data as well as the direct ISR subscription are sent to the invoice issuer when the subscription is completed.	

4.15 Collect subscription and logout events*

This use case is a supporting element of the services provided by SIX and enables the network partner to obtain events for the delivery permit created between the invoice recipient and invoice issuer and to forward the information to its invoice issuer. Processing these events enables validation errors to be avoided during delivery.

ID	Brief description of test	Declaration	Conditions	Action	Expected result	Test result/outcome (OK/NOK/Skip)
17.1	Query events via the delivery permit (subscription).	SDE	Subscription takes place without subscription forms.	Invoice recipient logs in to the invoice issuer's system.	Information on the desired subscription status is sent. The information is communicated to the invoice issuer in an appropriate form.	
17.2	Query events via the delivery permit (logout).	SDE	Invoice recipient is logged in to the invoice issuer's system.	Invoice recipient logs out from the invoice issuer's system.	Information on the desired logout status is sent. The information is communicated to the invoice issuer in an appropriate form.	

4.16 Query changed e-mail addresses

This use case is a supporting element of the services provided by SIX and enables the network partner to obtain events to changed e-mail addresses and to forward the information to its invoice issuer. Processing these events enables validation errors to be avoided during delivery of invoices.

ID	Brief description of test	Declaration	Conditions	Action	Expected result	Test result/outcome (OK/NOK/Skip)
18.1	Collect events about e-mail addresses that have been changed.	SD	Invoice recipient is registered for eBill. Invoice issuer changes his/her e-mail address in the eBill portal.	Submit an invoice to the old e-mail address. Collect events for e-mail addresses that have been changed.	Event for the changed e-mail address is sent. The information is communicated to the invoice issuer in an appropriate form.	

4.17 Error cases and error handling

Each HTTP request from the client is answered with an HTTP status code. The status code indicates to the client whether the request was successful or not. In the event of an error, the response body contains additional information about what the cause of the error may be.

If an NWP requires help from SIX for problems, the requests to SIX should not be formulated in general terms. SIX always requires the following information for research and better error analysis:

- The use case, which call was accessed and contents of it
- Date and exact time of the problem/test
- What level is affected, XE or XP
- Error message
- Network partner ID
- X-Correlation-Id (an ID that identifies the request, assigned by the network partner. It is also reported back in the response.)

Example:

Request made	GET /api/pns/xe/networkpartner/v1/billers/BIID0000000117 Host: api-etu.six-group.com
Date	August 28, 2019 / 8:51 am
System XE, XP, P level	XE level

Error message	```
	{
	  "type": "/problems/NETWORK_PARTNER_OPERATION_NOT_ALLOWED",
	  "title": "Requested operation not allowed for network partner",
	  "status": 403,
	  "detail": "There are restrictions regarding access to some resources. See network partner API documentation in <<Primary Network Partners>> for details.",
	  "instance": "/api/pns/networkpartner/v1/billers/BIID0000000117/errors/NWID0000011212/bde19bdc-cb12-4599-b14c-a9d141d94785",
	  "technicalReason": "failed to access the resource, the network partner with id 'NWID0000011212' is not allowed to access the resource of the biller with id 'BIID0000000117'"
	}
	``

Network partner ID	NWID0091234567
X-Correlation-Id	bde19bdc-cb12-4599-b14c-a9d141d94785