Network Partner Onboarding

Technical guide

Version 3.0, valid from 18 November 2021

Revision history

All changes made in this document are listed below with the version number, change date, a brief description of the change and references to the chapters affected.

Version	Date	Change description	Chapter
3.0	28.11.2021	Client authentication using certificates	
1.3	13.10.2021	Modification relating to the introduction of NWP-API V3	
1.2	02.06.2020	Modification relating to endpoints	
1.1	04.11.2019	Additions to certificate requirements	
1.0	31.05.2019	First publication	

Table 1: Revision history

Please address all suggestions, corrections, and proposed improvements to this document to:

SIX BBS AG
eBill & Direct Debit Support
Hardturmstrasse 201
CH-8005 Zurich
E-Mail: support.billing-payments@six-group.com
www.six-group.com

General notes

The contents of this document are protected by copyright. SIX reserves all rights for this document, including photomechanical reproduction and storage in electronic media, as well as translation into foreign languages.

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

All changes made to this document are listed in a change history with the version designation, the change date, a brief description of the change and the specification of the chapters affected.

For the purpose of simplification, non-gender-specific language is used throughout. All references to persons are to be regarded as gender-neutral.

Should you find any errors in this document or have suggestions for improvement, we would be grateful for your feedback by e-mail to **banking-support@six-group.com**.

Sensitivity: C2 Internal

Table of contents

Table of tables

Table of figures

Sensitivity: C2 Internal

1   Introduction

This document describes the onboarding process of a network partner onto the eBill infrastructure. It sets the stage for the network partner to be able to independently perform all further integration tests.

1.1   Target audience

The Network Partner guide is aimed at providers of electronic invoicing services who want to make the eBill service available to their customers (billers) via the central eBill infrastructure.

2   Onboarding process

The following requirements must be met for the onboarding of a network partner:

1. The network partner is recorded in the eBill infrastructure master data.

2. The client authentication certificate for the network partner has been registered.

3. The signature certificate for the network partner for the submission of invoices has been registered.

4. A successful health-check call can be made to the NWP API. Verification of the client's authentication.

5. A business case message posting can be made successfully. Verification of the digital signature.

2.1   Details of the eBill infrastructure for the network partner

In order for a network partner to set up the necessary configurations at their end, the eBill infrastructure provides the following details to the network partner.

- API endpoint URL

- Network partner -ID (for information purposes)

- Login URL to request access to the Member Section

2.2   Details of the network partner

In order for the network partner to be fully set up on the eBill infrastructure, the partner must provide various details to the eBill infrastructure.

Information about certificate authorities

SIX accepts client certificates from various issuers (Certificate Authorities). Information on client authentication certificates and PDF signatures for network partners can be found in the "Member Section" under Certificates.

2.2.1   Client authentication certificates

To authenticate the client, the public key (PEM format) is sent to the eBill infrastructure.

The requirements for a client authentication certificate are as follows:

- Validity of the user certificates: not expired, and still valid for at least nine months when first connecting

- Validity of root certificates: not expired, and still valid for at least five years when first connecting

- Standard: X.509 V3

- Signature algorithm: sha2RSA

- Key length: minimum 2048 bit

- Key Usage: Client authentication, digital signature

The latest information on client authentication certificates and PDF signatures for network partners can be found in the "Member Section" under Certificates.

2.2.2   PDF signature certificates

This information is sent to the eBill infrastructure using a signed PDF. The signed PDF is then used to extract the necessary referenced information.

The requirements for electronic signatures for the submitted business cases are as follows:

- B-level conformance from the PAdES baseline profile is to be achieved
  (ETSI EN 319 142-1 B-B-level).

- Approved issuers: SwissSign, QuoVadis, Swisscom (the complete list of valid certificates can be found on ebill.ch)

- Organization certificate with HSM (digital seal)

- Organization certificate on Smartcard/USB

- E-Mail ID Gold - with the organization entry option (Gold level certificates are shown as organization-validated or person-validated. There is an organization entry and, in the case of e-mail (S/MIME) certificates, a person entry in the certificate. This means that encryption, signature and authentication are possible with e-mail certificates).

- Permitted hash functions: SHA-256, SHA-384, SHA-512, SHA3.

- Permitted signature algorithms: RSA-PKCS1v1_5, RSA-PSS, EC-DSA, EC-SDSA.

The latest information on certificates and their requirements can be found in the "Member Section" for network partners under Certificates.

3   Application examples

The technical specifications and examples are shown below for the Healthcheck and the posting of business cases.

3.1   Healthcheck call

API endpoints

Environment	API endpoint URL
XE platform	https://api-cert-etu.six-group.com/api/pns/**xe**/networkpartner/v3/healthcheck
XP platform	https://api-cert-etu.six-group.com/api/pns/**xp**/networkpartner/v3/healthcheck
Production	https://api-cert.six-group.com/api/pns/networkpartner/v3/healthcheck

Table 2:   API endpoints for a Healthcheck call

Healthcheck call: description and example

Important parameters for a Healthcheck call:

Parameter name	Parameter value	Description
X-CORRELATION-ID	(uuid)	An ID which identifies the request, assigned by the network partner. Also be included in the response.
x-networkparter-id		Network partner ID which uniquely identifies the network partner

Table 3:   Important parameters for a Healthcheck call

Example request for the XE platform using the Postman tool with a registered keystore:

```
GET 'https://api-cert-etu.six-group.com/api/pns/xe/networkpartner/v3/healthcheck
X-CORRELATION-ID: 67781b89-33aa-49f5-9288-47c8bc5aa456
x-networkpartner-id: NWID0090000001
```

Figure 1:   Example request on the XE platform for a Healthcheck call

Example response for the XE platform:

```
HTTP/1.1 200
status: 200
X-CORRELATION-ID: 67781b89-33aa-49f5-9288-47c8bc5aa456
Content-Type: application/json;charset=utf-8

{
    "message": "The healthcheck GET request was successfully received and processed.",
    "requestDateTime": "2021-11-01T13:58:06.379745+01:00",
    "receivedHeaders": [
        {
            "headerName": "x-correlation-id",
            "headerValue": "ebbc755c-5d48-4271-a7ef-29a63f99f593"
        }
    ],
    "environmentStage": "XE",
    "applicationVersion": "1.15.2.1-carl-20211014162425405-59-1f28391",
    "apiVersion": "3.0.0",
    "maintenanceWindows": []
}
```

Figure 2:   Example response on the XE platform for a Healthcheck call

Sensitivity: C2 Internal

3.2 Business case calls

API-Endpoints

Environment	API-Endpoint URL
XE platform	https://api-cert-etu.six-group.com/api/pns/**xe**/networkpartner/v3/billers/ {aValidBillerId}/business-cases
XP platform	https://api-cert-etu.six-group.com/api/pns/**xp**/networkpartner/v3/billers/ {aValidBillerId}/business-cases
Production	https://api-cert.six-group.com/api/pns/networkpartner/v3/billers/ {aValidBillerId}/business-cases

Table 4:   API endpoints for a Business-Case call

Business-Case-Call description and example

Important parameters for a Business-Case call:

Parameter name	Parameter value	Description
X-CORRELATION-ID	(uuid)	Eine vom Netzwerkpartner vergebene ID, die den Request identifiziert. Sie wird in der Response auch wieder enthalten sein.
x-networkparter-id		Netzwerkpartner-ID welche den Netzwerkpartner eindeutig identifiziert.

Table 5:   Important parameters for a Business-Case call

Example request for the XE platform using the Postman tool with registered keystore:

```
POST https://api-cert-etu.six-
group.com/api/pns/xe/networkpartner/v3/billers/BIID9999999999/business-cases
X-CORRELATION-ID: 9615a0e8-ce7b-47a2-bd96-6e9097b8b518
x-networkpartner-id: NWID0090000001
Content-Type: application/pdf
```

Figure 3:   Example request on the XE platform for a Business-Case call

Example response for the XE platform:

```
HTTP/1.1 201
status: 201
X-CORRELATION-ID: 9615a0e8-ce7b-47a2-bd96-6e9097b8b518
Content-Type: application/json;charset=utf-8

{
  "type" : "Bill",
  "id" : "57691a06-c8c0-42e8-8422-a984bf8a59ea",
  "billerId" : "BIID0000001234",
  "referenceNumber" : "53DVHD30MVCUU4FLNPDI",
  "businessCaseDate" : "2019-03-14",
  "status" : "OPEN",
  "totalAmount" : {
    "value" : "200",
    "currencyCode" : "CHF"
  }
}
```

Figure 4:   Example response on the XE platform for a Business-Case call