



# **Network Partner Onboarding**

Technical Instructions



## Change History

Version	Date	Changes
1.0	31 May 2019	First draft
1.1	4 November 2019	Updated requirements for signing certificates



## Information

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

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## 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

This document describes the onboarding process for network partners on the eBill infrastructure. It establishes the prerequisites for network partners to carry out all further integration tests independently.



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## 1. Onboarding Process

The following prerequisites need to be in place for network partner onboarding:

1. Master data setup is complete in PNS (create network partner, enter details of digital signature).
2. The network partner can carry out a login call on the authorization endpoint. This leads to a JWT.
3. A successful health check call can be made on the NWP API with the JWT issued.
4. A transaction delivery can be executed successfully (check on digital signature).

### Information from the eBill infrastructure for the network partner

The eBill infrastructure provides the network partner with the following information:

- Login endpoint URL, including client ID and client secret for obtaining JWTs
- API endpoint URL
- Network partner ID (for information)

### Information from the network partner

The network partner must deliver the following information to the eBill infrastructure:

- The necessary public keys from the NWP (complete chain up to root CA) including period of validity.
- Distinguished name of its electronic signature.

This information should ideally be sent to the eBill infrastructure by means of a signed PDF, which can be used for extracting the information mentioned.

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

- The PAdES baseline profile is to reach B-level conformance (ETSI EN 319 142-1 B-B-Level).
- Authorized issuers: SwissSign, QuoVadis, Swisscom (the complete list of permitted certificates can be found at [ebill.ch](http://ebill.ch))
- Organization certificate with HSM (seal)
- Organization certificate on smartcard/USB
- E-mail ID Gold – with organization entry option (gold level certificates are shown as organizationally validated or personally validated. There is an organization entry and a personal entry in the certificate for e-mail (S/MIME) certificates. This enables encryption, signature and authentication for 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.



## 2. Examples

Technical information and examples relating to logins, health checks and the delivery of transactions are presented below.

### 2.1 Login Call

#### Login endpoint

##### X levels:

Login endpoint URL: <https://api-etu.six-group.com/auth/nwp/oauth/token>

##### Operations:

Login endpoint URL: <https://api.six-group.com/auth/nwp/oauth/token>

#### Login call description

Necessary parameters for login call:

Parameter name	Parameter value	Description
grant_type	client_credentials	Fixed value
client_id	(username)	Alphanumeric client ID of the network partner; assigned by SIX
client_secret	(password)	Alphanumeric password of the network partner; assigned by SIX

The login call must be executed as a POST request. Note the following:

- The following HTTP headers should be set (it will also work without these headers):
  - `Accept: application/json`
  - `Content-Type: application/x-www-form-urlencoded`
- The parameters are written in the body separated by ampersands (&); for example:
  - `grant_type=client_credentials&client_id=7b1f05ec-bafe-4be6-a7e5-68699e998de2&client_secret=2d7c6461-e11d-42a5-88cc-58510ee0e643`



### Login call example

Example of request:

```
curl -X POST https://api-etu.six-group.com/auth/nwp/oauth/token -H 'Content-Type: application/x-www-form-urlencoded' -d 'grant_type=client_credentials&client_id=XXXclientIdXXX&client_secret=XXXclientSecretXXX'
```

```
POST /auth/nwp/oauth/token
Content-Type: application/x-www-form-urlencoded
Accept: application/json
grant_type=client_credentials&client_id=XXXclientIdXXX&client_secret=XXXclientSecretXXX
```

Example of response:

```
HTTP/1.1 200
status: 200
Content-Type: application/json

{
  "access_token": "xbYwKMqVff5ap9gFkUiqBLg13bOJNvdHCiyH5uU3d2Ryf0kLphTgNv.OJNvdHCiyH5uU3d2Ryf0kLphTgNv.xbYwKMqVff5ap9gFkUiqBLg13b",
  "token_type": "Bearer",
  "expires_in": 86400
}
```

## 2.2 Health Check Call

### API endpoint

#### XE level:

API endpoint URL:

<https://api-etu.six-group.com/api/pns/xe/networkpartner/v1/healthcheck>

#### XP level:

API endpoint URL:

<https://api-etu.six-group.com/api/pns/networkpartner/v1/healthcheck>

#### Alternative variant:

<https://api-etu.six-group.com/api/pns/xp/networkpartner/v1/healthcheck>



### Operations:

API endpoint URL:

<https://api.six-group.com/api/pns/networkpartner/v1/healthcheck>

### Health check call description and example

Necessary parameters for health check call:

Parameter name	Parameter value	Description
X-CORRELATION-ID	(uuid)	An ID that identifies the request, assigned by the network partner. It will also be included in the response.
Authorization	Bearer (JWT)	The access token included in the login response.

Example of request:

```
GET /api/pns/networkpartner/v1/healthcheck
X-CORRELATION-ID: 67781b89-33aa-49f5-9288-47c8bc5aa456
Authorization: Bearer xxxxx.yyyyy.zzzzz
Host: api-etu.six-group.com
```

Example of response:

```
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": "2019-02-18T16:13:12.937+01:00",
  "receivedHeaders": [
    {
      "headerName": "X-CORRELATION-ID",
      "headerValue": "67781b89-33aa-49f5-9288-47c8bc5aa456"
    }
  ],
  "environmentStage": "XE",
  "applicationVersion": "1.5.3.0-dalwhinnie-20190131144454318-49-db92cf8",
  "apiVersion": "1.1.2"
}
```



## 2.3 Delivering Transactions

### API endpoint

#### XE level:

API endpoint URL:

<https://api-etu.six-group.com/api/pns/networkpartner/v1/billers/{aValidBillerId}/business-cases>

Alternative variant:

<https://api-etu.six-group.com/api/pns/xp/networkpartner/v1/billers/{aValidBillerId}/business-cases>

#### XP level:

API endpoint URL:

<https://api-etu.six-group.com/api/pns/xp/networkpartner/v1/billers/{aValidBillerId}/business-cases>

#### Operations:

API endpoint URL:

<https://api.six-group.com/api/pns/networkpartner/v1/billers/{aValidBillerId}/business-cases>

### Business case call description and example

Necessary parameters for business case call:

Parameter name	Parameter value	Description
X-CORRELATION-ID	(uuid)	An ID that identifies the request, assigned by the network partner. It will also be included in the response.
Authorization	Bearer (JWT)	The access token included in the login response.

Example of request:

```
POST /api/pns/networkpartner/v1/billers/BIID0000001234/business-cases
Authorization: Bearer xxxxx.yyyyy.zzzzz
X-CORRELATION-ID: 9615a0e8-ce7b-47a2-bd96-6e9097b8b518
Content-Type: application/pdf
```



Example of response:

```
HTTP/1.1 201
status: 201
X-CORRELATION-ID: 67781b89-33aa-49f5-9288-47c8bc5aa456
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"
  }
}
```