BALANSYS

Electronic Data Platform

Technical Description and Requirements

ELECTRONIC DATA PLATFORM **1**

TECHNICAL DESCRIPTION AND REQUIREMENTS **1**

1. INTRODUCTION **1**

2. FOR SPOCS **1**

2.1 Creation of SPOCs 1
2.2 Creation of users and roles 1

3. FOR DAY-TO-DAY USERS **1**

4. FOR DEVELOPERS **1**

5. TECHNICAL REQUIREMENTS **2**

5.1 General Information 2
5.2 Connection for Standard Users 2
5.3 Connection for Client Systems 3

6. ELECTRONIC DATA PLATFORM AUTOMATED DOWNLOADS **6**

6.1 Report Overview 6
6.2 General remarks 6
6.3 Allocation Details 6
6.4 Grid User Account Position 9
6.5 Settlement Price 11
6.6 Grid User Financial Exposure Position 14

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1. Introduction

You are about to use the Electronic Data Platform which shall give access to both public and private data and to its associated Electronic Booking System through which the Grid User can subscribe Transmission Services.

This document provides a FAQ for both SPOCs, day-to-day users and developers, a description of the automated download, and finally the technical requirements necessary.

2. For SPOCs

2.1 Creation of SPOCs

A SPOC is the contact person between the Balansys Service User and Balansys. (for a more complete definition of SPOC, please refer to User Manual)

The SPOC user should be created by Balansys administrators. The SPOC template describes what information should be provided to what contact person.

2.2 Creation of users and roles

For information about user management, please refer to the online help under ‘Manage users and roles’ or the User Management Info on the EDP.

3. For day-to-day users

The User Manual describes for each report how the Electronic Data Platform should be used. The order of the paragraphs corresponds to the order of the menu items.

Note that for viewing the private menu items, the user should have reader rights (SPOC responsibility, see 2.2), and should be signed in.

4. For developers

The technical requirements for the Electronic Data Platform can be found in the Technical Requirements documentation, in the section 5 of this document.

If the Balansys Service User wants to let a system perform automatic downloads through an URL with parameters, more information can be found in the Automatic Downloads Section, section 6 of this document. This section describes what URL and what parameters should be used.

Note that for automatic downloads, a user should be created with Downloader rights (SPOC responsibility, see 2.2). These rights are for security reasons not compatible with other rights. The credentials of the Downloader user should be used in the URL parameters, as is described in Automatic Downloads Section for each report.

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5. Technical requirements

5.1 General Information

5.1.1 Prerequisites

5.1.1.1 Browser

- For public menu items
  - 2 latest versions of Internet Explorer (right now 10 and 11)
  - Mozilla Firefox 10+
  - Chrome 16+
  - Safari 5+
- For private menu items Fluxys only supports Internet Explorer 10 or higher
- JavaScript must be enabled
- Cookies must be accepted

5.1.1.2 Authentication – User Management:

- Contact details of SPOC users (i.e. an employee of the customer) must have been supplied to Balansys. This information will be used to perform the setup for each Business Party.
- Customers are advised to designate at least *two* different SPOC's – to be able to deal with absences.
- The customer's SPOC will be able to define and manage users online. For example, when a user would have locked his account, he can contact the SPOC to unlock it and/or to reset the password.
- For an application to be able to use an URL for automatic downloads, the SPOC should create an Automatic Download Agent account. Such an account is best set up with the mobile phone and email address of someone in the technical team. A welcome email is sent once this account has been created by the SPOC, but even more important is that an SMS is sent to the user with his temporary password. This password should be reset manually before gaining access to the Balansys Electronic Data Platform. The username and password should be passed as authentication parameters each time a report is automatically downloaded. All information about external user management (XUMA) is available in the XUMA User Manual.

Note: The server will use a *Server Certificate* to setup a secure connection (https). However, a regular user should normally not worry about this.

5.1.2 Base URL's

The base URL for the Electronic Data Platform will be https://gasdata.balansys.eu.

A prominent link to the Electronic Data Platform is also placed on www.balansys.eu.

5.2 Connection for Standard Users

5.2.1 Accessing the Electronic Data Platform

Standard users access the Electronic Data Platform directly by entering the base URL https://gasdata.balansys.eu in a browser.

Initially only public content of the Electronic Data Platform will be displayed.

5.2.2 Logging in

As mentioned under *5.1.1 Prerequisites*, users must first be registered and assigned one or more roles by their company's SPOC.

Registered users can login through the "Sign in" link in the top right corner of the screen.
This will display a login dialog box where username and password can be provided.

After logging in, the user will return to the Electronic Data Platform home screen, but will see additional items under the various menus – according to the assigned user rights.

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For example, any user that is assigned a ‘Reader’ role will be able to see a ‘Metering’ item with several sub-items like ‘Measurements”, “Topology”...

Unless the user performs an explicit logout, he will stay logged in as long as he does not close his browser, with a maximum of 12 hours.

5.3 Connection for Client Systems

Most of the information available manually via the Electronic Data Platform and Electronic Booking System can also be retrieved directly and automatically, which is especially useful for client systems that perform ‘automatic downloads’.

5.3.1 Authentication Parameters

5.3.1.1 Procedure

The following is the procedure to follow to download reports from https://api.gasdata.balansys.eu.
We have implemented the OAuth2 Client Credentials Grant. Using this standard, a download from https://api.gasdata.balansys.eu/ takes 2 distinct requests to our servers.

5.3.1.2 Authenticate and retrieve a bearer token

In order to retrieve a bearer token, the following https request needs to be made to https://xumais.balansys.eu/connect/token.

```
POST /connect/token HTTP/1.1
Host: xumais.gasdata.balansys.eu
Authorization: Basic czZCaGRSa3F0MzpnWDFmQmF0M2JW
Content-Type: application/x-www-form-urlencoded

grant_type=client_credentials&scope=fluxys_api
```

As you can see above, the request is authenticated using an ‘Authorization: Basic’ header. The credentials are encoded in base64 in the format username:password.

After successfully validating the provided Authorization header, the server will return a response similar to the following:

```
HTTP/1.1 200 OK
Content-Type: application/json;charset=UTF-8
Cache-Control: no-store
Pragma: no-cache

{
  "access_token":"2YotnFZFEjr1zCsicMWpAA",
  "expires_in":3600,
}
```

The value associated with the JSON key “access_token” will be used as a bearer authorization header in the next step. It must be used as is without any transformation.

5.3.1.3 Download a report by providing the bearer token to the api gateway

To download the actual report, make a https GET request to the report URL (e.g. https://api.gasdata.balansys.eu/TransmissionHandler/Reports/WebTrack/pinvanx/get) making sure to include the bearer token retrieved in step 1 in an ‘Authorization: Bearer’ header

```
GET /TransmissionHandler/Reports/WebTrack/pinvanx/get HTTP/1.1
Host: api.gasdata.balansys.eu
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
```

After validating your access token, the report will be returned.

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5.3.1.4 Snippet code

The following C# code demonstrates the procedure described in the previous section.

```
using System;
using System.Collections.Generic;
using System.Net.Http;
using System.Net.Http.Headers;
using System.Text;

using Newtonsoft.Json.Linq;

namespace Example
{
    class Program
    {
        static void Main(string[] args)
        {
            var httpClient = new HttpClient();

            //
            // Step 1: retrieve an access token from our token server
            //

            var tokenRequest = new HttpRequestMessage(
                HttpMethod.Post,
                "https://xumais.balansys.eu/connect/token");
            tokenRequest.Content = new FormUrlEncodedContent(
                new Dictionary<string, string>()
                    {
                        { "grant_type", "client_credentials" },
                        { "scope", "fluxys_api" }
                    });

            // pass username and password with a 'Authorization: Basic' header
            tokenRequest.Headers.Authorization = new AuthenticationHeaderValue(
                "Basic",

Convert.ToBase64String(Encoding.UTF8.GetBytes("myusername:mypassword")));

            var tokenResponse = httpClient.SendAsync(tokenRequest).Result;
            tokenResponse.EnsureSuccessStatusCode();

            var tokenEndpointResult = tokenResponse.Content.ReadAsStringAsync().Result;
            var                                accessToken                                =
JObject.Parse(tokenEndpointResult)["access_token"].ToString();

            //
            // Step 2: Get the report passing the access token
            //

            var                                requestUri                                =
"https://api.gasdata.balansys.eu/TransmissionHandler/Reports/WebTrack/pinvanx/get?sapv
ersion=2017010000&annexdate=2017-01-20&annextype=DP001BSYS";
            var reportRequest = new HttpRequestMessage(HttpMethod.Get, requestUri);
            // note: the token retrieved in step 1 is added as an 'Authorization: Bearer'
header
            reportRequest.Headers.Authorization                  =                  new
AuthenticationHeaderValue("Bearer", accessToken);
// note: the type is depending of the report, here an xml report
            reportRequest.Headers.Accept.ParseAdd("application/xml");
            var reportResponse = httpClient.SendAsync(reportRequest).Result;
            reportResponse.EnsureSuccessStatusCode();
```


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```
            // reportContent can be used to copy the report content to a file or for
any processing
            var reportContent = reportResponse.Content.ReadAsStreamAsync().Result;
        }
    }
}
```

5.3.2 Server Certificate's Root Certification Authority must be trusted

As currently, the Root Certification Authority's Certificate (CA) of the Server Certificate must be trusted on the client for automatic downloads to work. Normally the Root CA will be GlobalSign.

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6. Electronic Data Platform Automated Downloads

6.1 Report Overview

The following table provides an overview of all report downloads, with an indication for which type of user these reports are provided. (Y = yes; N = no; C = provided if customer has signed a specific contract).

Download Name	Grid User	End User
Grid User Account Position	Y	N
Settlement Prices	Y	N
Allocation details	Y	N
Grid User Financial Exposure Position	Y	N

6.2 General remarks

6.2.1 Base URL

https://api.gasdata.balansys.eu/TransmissionHandler/Reports/WebTrack/

NB: The access to the automatic downloads needs a valid token retrieved after a successful authentication to the server https://xumais.balansys.eu/connect/token (see technical requirements document for details)

6.2.2 File Formatting

The XML Schema Definition (XSD) and the full sample XML file and/or CSV file for each of the reports mentioned in this document is provided in the relevant folder on the Fluxys website.

6.2.3 Selecting a period

From/To dates entered for period selection are always included in that period. This means that by denoting DateFrom “2012-04-01” and DateTo “2012-04-02”, a period of 2 days is selected.

A date refers to a GasDay, starting from 06:00AM and ending at 06:00AM, local time

6.3 Allocation Details

Note that allocation details only exist in CSV format.
The data available to download are the preliminary allocation details.

6.3.1 Description

The download URL could be used by a client application for automatically downloading a collection of allocation details linked to a given document date or related to a particular Monthly Details Version Number (formerly: SAPExportVersionNumber).

It is also possible to automatically download a single allocation detail.

Remark: Allocation details were formerly known as invoice annexes. You will still find references to the old name in some occasions like report codes.

6.3.2 Base URL

Note that the base URL for **this** report is

https://api.gasdata.balansys.eu/TransmissionHandler/Reports/WebTrack/pinvanx/get?

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6.3.3 Parameters

6.3.3.1 SAPversion

The “v” is the parameter name for *Monthly Details Version Number* (SAP Export Version Number)

The format for the version number is YYYYMMVVV with

- YYYYMM: supply year and month
- VVVV version number

E.g. v = 2016120000

Note: version number VVVV is always 0000 for Preliminary Allocation Details!

6.3.3.2 annextype

The “annextype” is the parameter name for *Annex Type Code* (Allocation Details Report Type Code)

The parameter is mandatory if an individual report is requested (and therefore using CSV format file). It should not be used if the allocation details in general are required.

The following table shows the different codes and whether or not a date (see 6.3.3.3) is necessary.

Code	Report title	Date required?
DP001BSYS	Grid User's Definitive Hourly Allocation Form	Y
DP002BSYS	Grid User’s Definitive Daily Allocation Form	N
DP003BSYS	Grid User’s Definitive Monthly Allocation Form	N
DP004BSYS	Grid User’s Definitive BAP Hourly Allocation Form	N

6.3.3.3 annexdate

The “annexdate” is the parameter name for *Date of the Allocation Details to download*.
The format is YYYY-MM-DD

This parameter is only allowed for the individual download of the daily report DP001BSYS.

6.3.3.4 Format Types available

The format types are filled in the header of the http request

- CSV : “*text/csv*”
- CSVZIP : “*application/octet-stream*”

CSV: only to download individual report like DP001BYS, … DP004BSYS
CSVVzip: in all other cases

This parameter is always mandatory.

6.3.4 CSV format

The full CSV *samples* can be found in the CSV folder on the Fluxys website.

Each of the following paragraphs contains a *snippet* that gives an impression of how the CSV file looks like.

6.3.4.1 Grid User's Definitive Hourly Allocation Form (DP001BSYS)

```
GRID_USER;GRID_USER_CODE;OPERATIONAL_REGIME;ZONE;GEL_NAME;DATE_TIME_FROM;DATE_TIME_TO;HOU
R_NUMBER;EEAh;XEAh;IPTh;IPT_Counterparty
;;;;;;;;kWh;kWh;kWh;
ABC;ABCUSERSHIPPERCODE;Unbalanced;BELUXHZONE;N/A;1/12/2017 06:00;1/12/2017 07:00;1;;;5.000 ;Other shipper 1
ShipperName1;SHIPPERCODE;Unbalanced;BELUXHZONE;N/A;1/12/2017 06:00;1/12/2017 07:00;1;;;9.000;Other shipper 2
ShipperName;SHIPPERCODE;Unbalanced;BELUXHZONE;N/A;1/12/2017 07:00;1/12/2017 08:00;2;;;5.000;Other shipper 2
```


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“Zone” can have the following values

- BELUXHZONE
- BELUXLZONE

“Point type” can have the following values

- Interconnection Point
- Distribution Domestic Exit Point
- End User Domestic Exit Point

6.3.4.2 Grid User’s Definitive Daily Allocation Form (DP002BSYS)

```
GRID_USER;GRID_USER_CODE;OPERATIONAL_REGIME;ZONE;GEL_NAME;GAS_DAY;EEAd;XEAd;IPTd;IPT_Counterpa
rty;;;
;;;;;;kwh;kwh;kwh;;;;
Shipper Name;SHIPPERCODE;Unbalanced;BELUXHZONE;N/A;1/12/2017;;;4.750;other shipper 1;;;
Shipper Name;SHIPPERCODE;Unbalanced;BELUXHZONE;N/A;1/12/2017;;;4.667;other shipper 2;;;
Shipper Name;SHIPPERCODE;Unbalanced;BELUXHZONE;N/A;2/12/2017;;;5.000;other shipper 3;;;
```

“Zone” can have the following values

- BELUXHZONE - BHZONE
- BELUXLZONE - BLZONE

“Point type” can have the following values

- Interconnection Point
- Distribution Domestic Exit Point
- End User Domestic Exit Point

6.3.4.3 Grid User’s Definitive Monthly Allocation Form (DP003BSYS)

```
GRID_USER;GRID_USER_CODE;OPERATIONAL_REGIME;ZONE;GEL_NAME;GAS_MONTH;EEAm;XEAm;IPTm;IPT_Coun
terparty
;;;;;;kWh;kWh;kWh;
;;;;;;;;;
Shipper Name;SHIPPERCODE;Unbalanced;BHZONE;N/A;Dec-17;;;9.250;other shipper 1
Shipper Name;SHIPPERCODE;Unbalanced;BHZONE;N/A;Dec-17;;;5.667;other shipper 2
Shipper Name;SHIPPERCODE;Unbalanced;BHZONE;N/A;Dec-17;;;10.000;other shipper 3
Shipper Name;SHIPPERCODE;Unbalanced;BHZONE;GEL A;Dec-17;0;-10.000;;N/A
```

“Zone” can have the following values

- BELUXHZONE - BHZONE
- BELUXLZONE - BLZONE

“Point type” can have the following values

- Interconnection Point
- Distribution Domestic Exit Point
- End User Domestic Exit Point

6.3.4.4 Grid User’s Definitive BAP Hourly Allocation Form (DP004BSYS)

```
GRID_USER;ZONE;DATE_TIME_FROM;DATE_TIME_TO;HOUR_NUMBER;SUM(EEAh);SUM(XEAh);NCTTh;Ih;IPTh;GBP*h;
GEh;GSh;GBPh;GEd;GSd;MBP*h;MEh;MSh;MEd;MSd;ECGh : SUM(GBP*h);SCGh : SUM(GBP*h);MT+h;MT-h
;;;;;kWh;kWh;kWh;kWh;kWh;kWh;kWh;kWh;kWh;kWh;kWh;kWh;kWh;kWh;kWh;kWh;kWh;kWh;kWh;kWh
Shipper Name;BELUXHZONE;1/12/2017 06:00;1/12/2017 07:00;1;6.950.000;-5.121.016;-993.442;835.542;14.000
;849.542;0;0;849.542;0;0;864.456;0;0;0;0;0;0;22.000.000;-22.000.000
Shipper Name;BELUXHZONE;1/12/2017 07:00;1/12/2017 08:00;2;6.950.000;-5.051.631;-993.442;904.927;5.000
;1.759.469;0;0;1.759.469;0;0;2.330.818;0;0;0;0;0;0;22.000.000;-22.000.000
Shipper Name;BELUXHZONE;1/12/2017 08:00;1/12/2017 09:00;3;6.950.000;-5.297.668;-993.442;658.890;-3.578
;2.414.781;0;0;2.414.781;0;0;2.759.176;0;0;0;0;0;0;22.000.000;-22.000.000
Shipper Name;BELUXHZONE;1/12/2017 09:00;1/12/2017 10:00;4;7.410.000;-5.638.904;-993.442;777.654;0
;3.192.435;0;0;3.192.435;0;0;3.029.708;0;0;0;0;0;0;22.000.000;-22.000.000
```

6.3.5 Example URL

6.3.5.1 Zip file for preliminary allocation details in general

https://api.gasdata.balansys.eu/TransmissionHandler/Reports/WebTrack/pinvanx/get?sapversion=2017010000

6.3.5.2 Specific preliminary allocation details report

https://api.gasdata.balansys.eu/TransmissionHandler/Reports/WebTrack/pinvanx/get?sapversion=2017010000&annexdate=2017-01-20&annextype=DP001BSYS

https://api.gasdata.balansys.eu/TransmissionHandler/Reports/WebTrack/pinvanx/get?sapversion=2017010000&a=DP002BSYS

6.4 Grid User Account Position

6.4.1 Description

The Grid User Account Position publication holds Market Threshold with the Position and possible Settlement for the Market and the Grid User.
It also indicates whether the data is based on provisional or forecasted values.

Grid Users receive data about the BELUXH-zone and/or the BELUXL-zone, depending on their activities.

The Market Settlement could be either a Market Shortfall or a Market Excess, a direction is conventionally defined:

- A positive Market Settlement corresponds to a Market Shortfall, Balansys injects gas into Grid User Balancing Position of causing Grid Users, Balansys buys gas to compensate Market Shortfall
- A negative Market Settlement corresponds to a Market Excess, Balansys withdraws gas from Grid User Balancing Position of causing Grid Users, Balansys sells gas to compensate Market Excess

This publication is published every hour (H+30') with the latest actual and forecasted values.

All values are rounded to 1kWh.

Base URL :
https://api.gasdata.balansys.eu/TransmissionHandler/Reports/WebTrack/griduseraccountposition/get?

6.4.2 Parameters

6.4.2.1 periodfrom – periodto

This is the period for which data is retrieved.
Dates are expressed in the YYYY-MM-DD format.

6.4.2.2 Format types available

The format types are filled in the header of the http request

- CSV : "*text/csv*"
- XML : "*text/xml*"

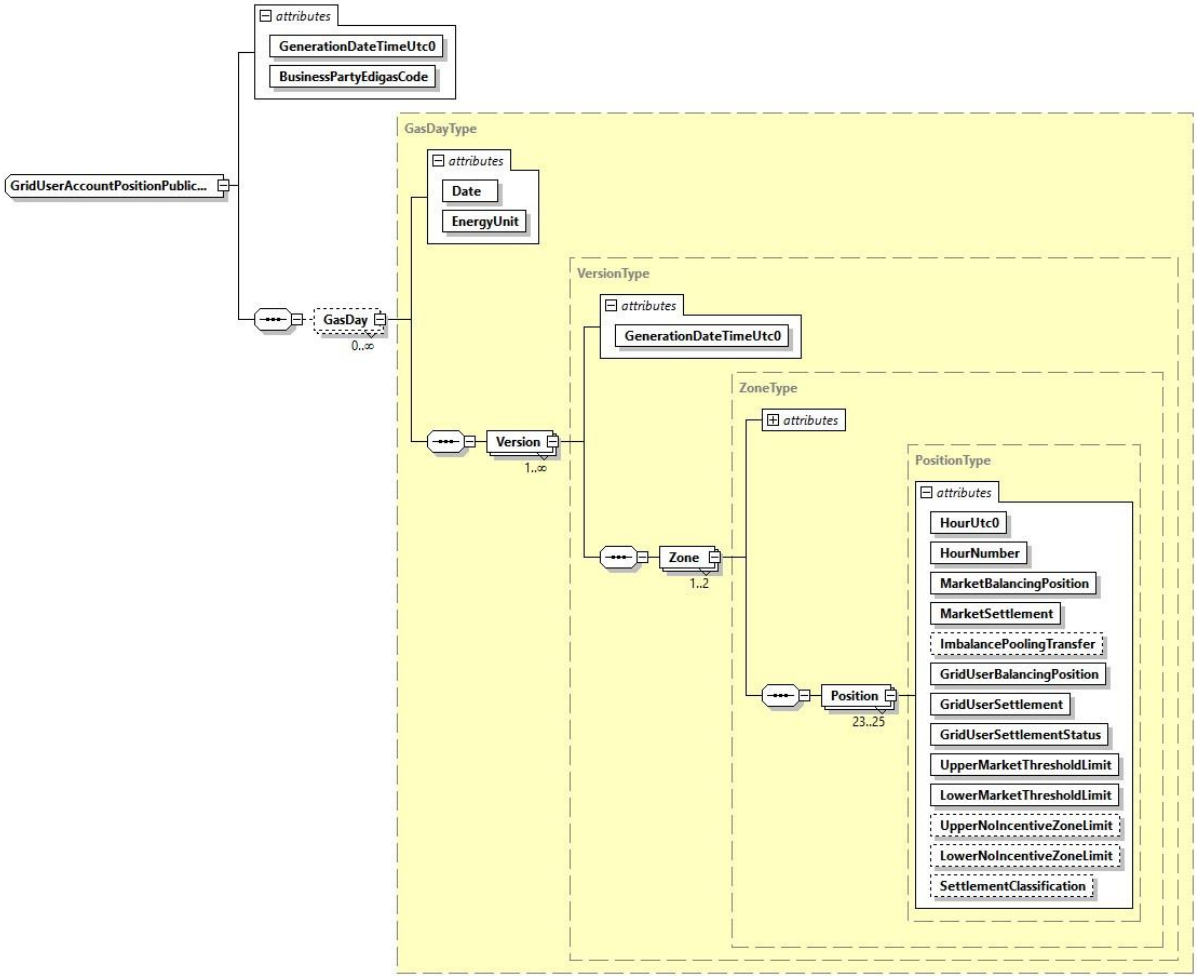
6.4.2.3 IncludeAllVersions

This input flag indicates whether or not the user also wants to download older versions (based on outdated and less accurate data) of the report.

6.4.3 XML

6.4.3.1 XSD

The following diagram shows the XML Schema for this publication.



6.4.3.2 XML snippet

The full XML sample, containing data for 2 gasdays, can be found in the XML folder on the Fluxys website.

The following *snippet* gives an impression of how the XML looks like:

```
<GridUserAccountPositionPublication
        GenerationDateTimeUtc0="2012-04-25T15:34:10.9070285Z"
        BusinessPartyEdigasCode="ABC"
        xmlns="http://www.fluxys.com/edp/1.0">
        <GasDay Date=" 2024-01-04" EnergyUnit="kWh">
                <Version GenerationDateTimeUtc0="2012-04-04T08:37:00">
                        <Zone Code="BHZONE">
                                <Position HourUtc0="2024-01-04T04:00:00" HourNumber="1"
                                MarketBalancingPosition="2461330" ImbalancePoolingTransfer="0"
                                MarketSettlement="0"  GridUserBalancingPosition="1351582" GridUserSettlement="0"
                                GridUserSettlementStatus="Provisional" UpperMarketThresholdLimit="28000000"
                                LowerMarketThresholdLimit="-28000000" SettlementClassification="Neutral"/>
                                ...
                        </Zone>
                        <Zone Code="BLZONE">
                                <Position HourUtc0="2024-01-04T04:00:00" HourNumber="1"
                                MarketBalancingPosition="-102940" ImbalancePoolingTransfer="0"
                                MarketSettlement="0"
                                GridUserBalancingPosition="-65962" GridUserSettlement="0"
                                GridUserSettlementStatus="Provisional" UpperMarketThresholdLimit="5000000"
                                LowerMarketThresholdLimit="-5000000" SettlementClassification="Neutral"/>
                                ...
                        </Zone>
                </Version>
                ...
        </GasDay>
        ...
```

```
</GridUserAccountPositionPublication>
```

6.4.4 CSV

The full CSV sample, containing data for 2 gasdays, can be found in the CSV folder on the Fluxys website.

The following *snippet* gives an impression of how the CSV file looks like:

```
GasDayDate,GasDayUnit,GasDayVersionGenerationDateTimeUTC0,GasDayVersionZoneCode,GasDayVersionZonePositionHourUtc0,GasDayVersionZonePositionHourNumber,GasDayVersionZonePositionMarketBalancingPosition,GasDayVersionZonePositionMarketSettlement,ImbalancePoolingTransfer,GasDayVersionZonePositionGriduserBalancingPosition,GasDayVersionZonePositionGridUserSettlement,GasDayVersionZonePositionGridUserSettlementStatus,GasDayVersionZonePositionUpperMarketThresholdLimit,GasDayVersionZonePositionLowerMarketThresholdLimit,GasDayVersionZoneSettlementClassification
2024-01-04,kWh,2024-01-04T20:32:00Z,BHZONE,2023-01-04T04:00:00Z,1,-7466,0,0,267659,0,Provisional,29000000,-29000000,Neutral
2024-01-04,kWh,2024-01-04T20:32:00Z,BHZONE,2023-01-04T05:00:00Z,2,176904,0,0,606996,0,Provisional,29000000,-29000000,Neutral
2024-01-04,kWh,2024-01-04T20:32:00Z,BHZONE,2023-01-04T06:00:00Z,3,579246,0,0,1029983,0,Provisional,29000000,-29000000,Neutral
2024-01-04,kWh,2024-01-04T20:32:00Z,BHZONE,2023-01-04T07:00:00Z,4,412612,0,0,1257071,0,Provisional,29000000,-29000000,Neutral
2024-01-04,kWh,2024-01-04T20:32:00Z,BHZONE,2023-01-04T08:00:00Z,5,-50424,0,0,1380188,0,Provisional,29000000,-29000000,Neutral
2024-01-04,kWh,2024-01-04T20:32:00Z,BHZONE,2023-01-04T09:00:00Z,6,-745119,0,0,1410921,0,Provisional,29000000,-29000000,Neutral
2024-01-04,kWh,2024-01-04T20:32:00Z,BHZONE,2023-01-04T10:00:00Z,7,-1572021,0,0,1372840,0,Provisional,29000000,-29000000,Neutral ….
```

6.4.5 Example URL

The following URL can be used to download the Grid User Account Positions for the month October 2016, including only the last available version. The returned file is in XML format.

https://api.gasdata.balansys.eu/TransmissionHandler/Reports/WebTrack/griduseraccountposition/get?periodfrom=2016-10-01&periodto=2016-10-31&includeAllVersions=false

6.5 Settlement Price

6.5.1 Description

The Settlement Price publication holds prices for settlements that have occurred.

Grid Users receive data about the H-zone and/or the L-zone, depending on their activities.

The Market Settlement could be either a Market Shortfall or a Market Excess, a direction is conventionally defined:

- A positive Market Settlement corresponds to a Market Shortfall, Balansys injects gas into Grid User Balancing Position of causing Grid Users, Balansys buys gas to compensate Market Shortfall
- A negative Market Settlement corresponds to a Market Excess, Balansys withdraws gas from Grid User Balancing Position of causing Grid Users, Balansys sells gas to compensate Market Excess

This publication is refreshed whenever the price for a settlement becomes available.

It is possible to consult the SBSP Main Causer, SBSP Minor Causer, SBSP Helper (Shortfall Balancing Settlement Price) and EBSP Main Causer, EBSP Minor Causer, EBSP Helper (Excess Balancing Settlement Price) from both BeluxH & BeluxL-zone in the screen and XML & CSV downloads.

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Base URL :
https://api.gasdata.balansys.eu/TransmissionHandler/Reports/WebTrack/settlementprice/get?

6.5.2 Parameters

6.5.2.1 periodfrom – periodto

This is the period for which data is retrieved.
Dates are expressed in the YYYY-MM-DD format.

6.5.2.2 Format types available

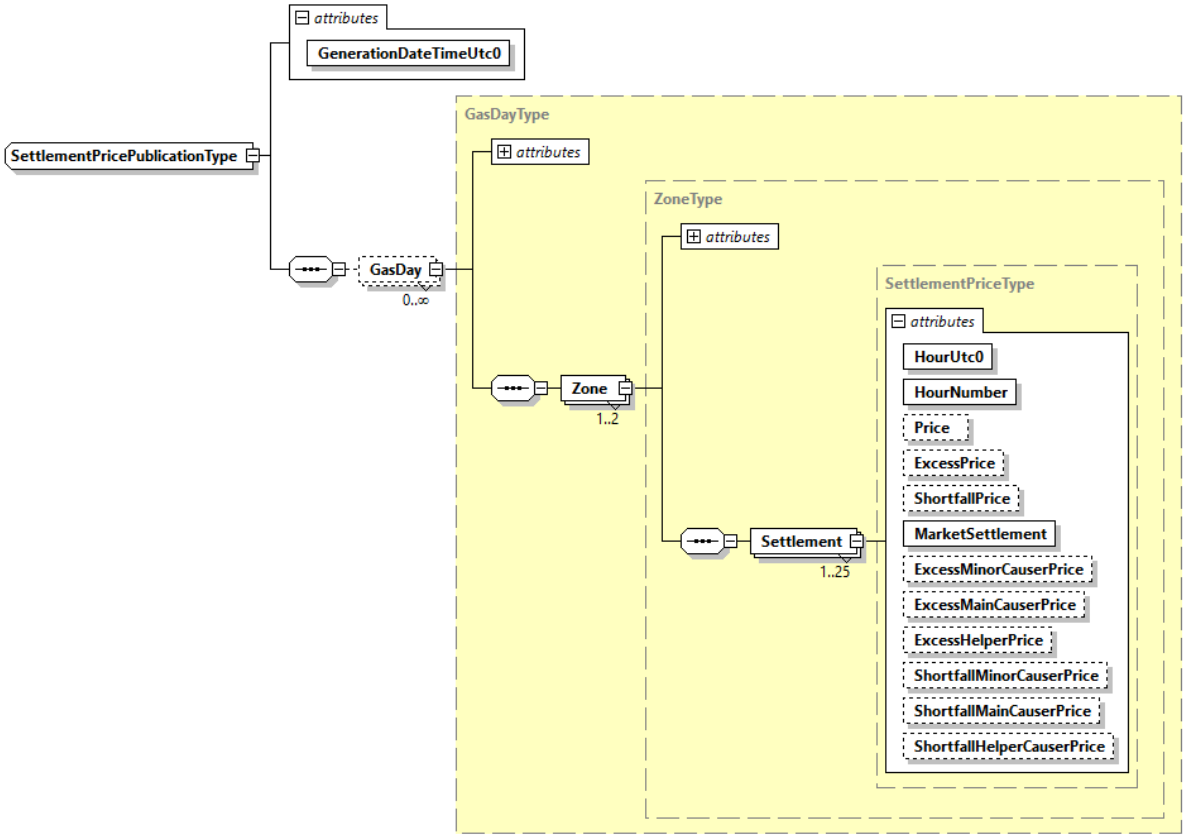
The format types are filled in the header of the http request

- CSV : "*text/csv*"
- XML : "*text/xml*"

6.5.3 XML

6.5.3.1 XSD

The following diagram shows the XML Schema for this publication.



6.5.3.2 XML snippet

The full XML *sample*, containing data for 2 gasdays, can be found in the XML folder on the Fluxys website.

Note: In the sample on the website, there is only a settlement price on the second gasday for one gashour in the BELUXHZone and on the third gasday there is only a settlement price for one gashour

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in the BELUXLZone. This is a theoretic example, as it will be highly unlikely that for a zone no settlement will occur during a gasday.

The following *snippet* gives an impression of how the XML looks like:

```
<SettlementPricePublication GenerationDateTimeUtc0="2001-12-17T09:30:47Z"
        xmlns="http://www.fluxys.com/edp/1.0" >
        <GasDay Date="2024-01-01" SettlementPriceUnit="EUR/kWh" EnergyUnit="kWh">
                <Zone Code="BELUXHZONE">
                        <Settlement HourUtc0="2024-01-01T21:00:00Z" HourNumber="17"
                                MarketSettlement="-200005.40" ExcessMinorCauserPrice="0.05805"
                                ExcessMainCauserPrice="0.06005" />
                        <Settlement HourUtc0="2024-01-01T04:00:00Z" HourNumber="24"
                                MarketSettlement="-4076276.571571860" ExcessMinorCauserPrice="0.0642112"
                                ExcessMainCauserPrice="0.0652112" ShortfallHelperPrice="0.067228"  />
                </Zone>
                <Zone Code="BELUXLZONE">
                        <Settlement HourUtc0="2024-01-02T16:00:00Z" HourNumber="12"
                                MarketSettlement="300006" ShortfallMinorCauserPrice="0.0632112"
                                ShortfallMainCauserPrice="0.0652112"/>
                        <Settlement HourUtc0="2024-01-01T04:00:00Z" HourNumber="24"
                                MarketSettlement="5973502.751571860" ExcessHelperPrice ="0.067228"
                                ShortfallMinorCauserPrice="0.0612112" ShortfallMainCauserPrice="0.0632112"  />
                </Zone>
        </GasDay>
        …
</SettlementPricePublication>
```

6.5.4 CSV

The full CSV *sample*, containing data for 3 gasdays, can be found in the CSV folder on the Fluxys website.

Note: In the sample on the website, there is only a settlement price on the second gasday for one gashour in the BELUXHZone and on the third gasday there is only a settlement price for one gashour in the BELUXLZone. This is a theoretic example, as it will be highly unlikely that for a zone no settlement will occur during a gasday.

The following *snippet* gives an impression of how the CSV file looks like:

```
GasDayZoneSettlementExcessPrice,GasDayZoneSettlementExcessPriceUnit,GasDayZoneSettlementShortfallPrice,GasDayZo
neSettlementShortfallPriceUnit,GasDayDate,GasDayZoneCode,GasDayZoneSettlementHourUtc0,GasDayZoneSettlementMar
ketSettlement,GasDayZoneSettlementMarketSettlementUnit,GasDayZoneSettlementExcessMinorCauserPrice,GasDayZoneSe
ttlementExcessMinorCauserPriceUnit,GasDayZoneSettlementExcessMainCauserPrice,GasDayZoneSettlementExcessMainCa
userPriceUnit,GasDayZoneSettlementExcessHelperPrice,GasDayZoneSettlementExcessHelperPriceUnit,GasDayZoneSettlem
entShortfallMinorCauserPrice,GasDayZoneSettlementShortfallMinorCauserPriceUnit,GasDayZoneSettlementShortfallMainCau
serPrice,GasDayZoneSettlementShortfallMainCauserPriceUnit,GasDayZoneSettlementShortfallHelperCauserPrice,GasDayZon
eSettlementShortfallHelperCauserPriceUnit
,,,,2024-01-01,BHZONE,2024-01-02T16:00:00Z,300006,kWh,,,,,,,0.0652112,EUR/kWh,0.0632112,EUR/kWh,,
,,,,2024-01-01,BHZONE,2024-01-
02T04:00:00Z,5973502.7516855386004166669,kWh,,,,,,,0.0612112,EUR/kWh,0.0632112,EUR/kWh,0.067228,EUR/kWh
,,,,2024-01-01,BLZONE,2024-01-01T21:00:00Z,-200005,kWh,0.06005,EUR/kWh,0.05805,EUR/kWh,,,,,,,
,,,,2024-01-01,BLZONE,2024-01-02T04:00:00Z,-
4076276.5737766651944444444,kWh,0.0652112,EUR/kWh,0.0642112,EUR/kWh,,,,,,,0.067228,EUR/kWh
```

6.5.5 Example URL

The following URL can be used to download the Settlement Prices for the month May 2016. The returned file is in CSV format.

https://api.gasdata.balansys.eu/TransmissionHandler/Reports/WebTrack/settlementprice/get?periodfrom=2016-05-01&periodto=2016-05-31

6.6 Grid User Financial Exposure Position

6.6.1 Description

This report gives an overview of the financial exposure position on an hourly basis.

Base URL :
https://api.gasdata.balansys.eu/TransmissionHandler/Reports/GridUserFinancialExposurePosition/?

6.6.2 Parameters

6.6.2.1 periodfrom – periodto

This is the period for which data is retrieved.
Dates are expressed in the YYYY-MM-DD format.

6.6.2.2 Format types available

Only available in CSV format.
The format types are filled in the header of the http request

- CSV : "*text/csv*"

6.6.3 CSV

The following *snippet* gives an impression of how the CSV file looks like:

```
Shipper;From;To;StatusDateTime;TotalCreditLimit;TotalExposure;UsedCreditPercentage;OpenInvoices;ToBeInvoided;Rating;BankGuarantee;ExpiryDate;Deposit
ShipperName;01/12/2022;31/12/2022;05/12/2022 15:41;-;€ 2,384,724;-;€ 1,100,567;€ 1,284,157;X;-;;-
ShipperName;01/12/2022;31/12/2022;05/12/2022 14:40;-;€ 2,384,948;-;€ 1,100,567;€ 1,284,382;X;-;;-
ShipperName;01/12/2022;31/12/2022;05/12/2022 13:40;-;€ 2,385,171;-;€ 1,100,567;€ 1,284,604;X;-;;-
ShipperName;01/12/2022;31/12/2022;05/12/2022 12:41;-;€ 2,385,389;-;€ 1,100,567;€ 1,284,822;X;-;;-
ShipperName;01/12/2022;31/12/2022;05/12/2022 11:41;-;€ 2,385,595;-;€ 1,100,567;€ 1,285,029;X;-;;-
ShipperName;01/12/2022;31/12/2022;05/12/2022 10:41;-;€ 2,680,512;-;€ 1,100,567;€ 1,579,945;X;-;;-
ShipperName;01/12/2022;31/12/2022;05/12/2022 09:41;-;€ 2,680,724;-;€ 1,100,567;€ 1,580,158;X;-;;-
ShipperName;01/12/2022;31/12/2022;05/12/2022 08:41;-;€ 6,104,656;-;€ 3,524,293;€ 2,580,363;X;-;;-
ShipperName;01/12/2022;31/12/2022;05/12/2022 07:41;-;€ 6,104,867;-;€ 3,524,293;€ 2,580,574;X;-;;-
ShipperName;01/12/2022;31/12/2022;05/12/2022 06:41;-;€ 6,105,074;-;€ 3,524,293;€ 2,580,781;X;-;;
....
```

6.6.3.1 Example URL

The following URL can be used to download the Grid User Financial Exposure Positions for the month December 2022

https://api.gasdata.balansys.eu/TransmissionHandler/Reports/GridUserFinancialExposurePosition/?periodfrom=2022-12-01&periodto=2022-12-31

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