



How to implement GTS web services for Shipper / PV

Department
GTS

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Abbreviations

Abbreviation	Explanation
GTS	Gasunie Transport Services
ID	Identification
PDF	Portable Document Format
POS	Portfolio Onbalans Signaal (portfolio imbalance signal)
SBS	Systeem Balans Signaal (system balance signal)
SOAP	Simple Object Access Protocol
WSDL	Web Services Description Language
XML	eXtensible Markup Language
XSD	XML Schema Definition
ZIP	File format that contains one or more files that have been compressed to reduce file size

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1 Introduction

1.1 About this document

Gasunie Transport Service (GTS), as part of N.V. Nederlandse Gasunie (GU), provides information to the market parties. This information is made available via GTS web applications and XML downloads. For security reasons, certificates will be used for authorization and access.

Due to the current market and balancing model, GTS must provide information to the involved market parties.

The information is made available as GTS Information Services. The GTS Information Services are deployed as web services. This document describes the web services for **Shipper/PV** and how to implement them. This document is intended for the software specialists who have the knowledge of .NET development, web services and XML messaging.

Please note that the description on how to implement is a generic description and therefore independent of the middleware/solution used by the market party.

In case of any questions please refer first to "B2B - Frequently Asked Questions" document which can be found on the GTS website.

1.2 Certificates

A personal certificate is the digital counterpart of your passport. With your passport, you can uniquely identify yourself. Web servers can also make use of certificates, in which case we refer to Server certificates or Server IDs, which enable you to prove the identity of the Web server.

More information about certificates can be found in the following document:

- Application form Online Services (Gasport - B2B) for a GTS certificate (Request form Online Services)

This document can be found on the GTS website:

<https://www.gasunietransportservices.nl/en/gasport-b2b-certification/gasport-and-b2b>

1.3 About web services

The web services are developed using Web Services Description Language (WSDL). WSDL is an XML-based language that provides a model for describing web services.

The WSDL specifies endpoints, but does not specify SOAP message body details. It is up to the client side to fill the SOAP Body with proper requests, as specified in the XSD's.

The following information is provided on GTS website for Shipper/PV:

- GTS Information Services definition document:
 - GTS Information Services Shipper/PV (PDF)
- Set of static WSDL's definitions:
 - WSDL GTS Information Services – Shipper/PV (ZIP)
- XML Schema definitions:

- XML Schema GTS Information Services – Shipper/PV (ZIP)

These documents can be downloaded from the GTS website:

<https://www.gasunietransportservices.nl/en/shippers/balancing-regime/documents/shippers-and-suppliers>

2 Overview released web services

See previous paragraph 1.3 for information provided by means of the following web services.

2.1 Contracting

The following web services and operations are deployed:

OperationalPortfolioNetworkpoints

URL: <https://b2b.gastransportservices.nl/OperationalGeneral.svc>

To expose the WSDL: <https://b2b.gastransportservices.nl/OperationalGeneral.svc?wsdl>

AnalysisPortfolioNetworkpoints

URL: <https://b2b.gastransportservices.nl/AnalysisGeneral.svc>

To expose the WSDL: <https://b2b.gastransportservices.nl/AnalysisGeneral.svc?wsdl>

2.2 Allocating

The following web services and operations are deployed:

OperationalAllocations

OperationalAccountableAllocations

URL: <https://b2b.gastransportservices.nl/OperationalAlloc.svc>

To expose the WSDL: <https://b2b.gastransportservices.nl/OperationalAlloc.svc?wsdl>

AnalysisAccountableNearRealTimeAllocations

AnalysisAccountableOfflineAllocations

AnalysisAccountableOfflineImbalance

AnalysisAccountableNetworkpointRestAllocations

AnalysisMonthlySummaries

URL: <https://b2b.gastransportservices.nl/AnalysisAlloc.svc>

To expose the WSDL: <https://b2b.gastransportservices.nl/AnalysisAlloc.svc?wsdl>

2.3 Measuring

The following web services and operations are deployed:

OperationalLdcNetworkpointMeasurements

URL: <https://b2b.gastransportservices.nl/OperationalMetering.svc>

To expose the WSDL: <https://b2b.gastransportservices.nl/OperationalMetering.svc?wsdl>

2.4 Balancing

The following web services and operations are deployed:

OperationalPrognosisPOS

OperationalAccountablePOS

OperationalPrognosisSBS

OperationalAccountableSBS

URL: <https://b2b.gastransportservices.nl/OperationalBalance.svc>

To expose the WSDL: <https://b2b.gastransportservices.nl/OperationalBalance.svc?wsdl>

AnalysisAccountablePOS

AnalysisAccountableSBS

URL: <https://b2b.gastransportservices.nl/AnalysisBalance.svc>

To expose the WSDL: <https://b2b.gastransportservices.nl/AnalysisBalance.svc?wsdl>

OperationalDampingParameter

OperationalBufferZones

OperationalCallCorrectionFactor

OperationalIncentiveComponent

URL: <https://b2b.gastransportservices.nl/OperationalGeneral.svc>

To expose the WSDL: <https://b2b.gastransportservices.nl/OperationalGeneral.svc?wsdl>

AnalysisDampingParameter

AnalysisBufferZones

AnalysisCallCorrectionFactor

AnalysisIncentiveComponent

URL: <https://b2b.gastransportservices.nl/AnalysisGeneral.svc>

To expose the WSDL: <https://b2b.gastransportservices.nl/AnalysisGeneral.svc?wsdl>

ProvidePublicBplInformation

URL: <https://b2b.gastransportservices.nl/BidPriceLadder.svc>

To expose the WSDL: <https://b2b.gastransportservices.nl/BidPriceLadder.svc?wsdl>

3 How to start

3.1 Client implementation

Given the information in the previous chapter, client implementation may follow several techniques; see for instance three options below. The XML Schema's, WSDL's and corresponding documentation that is used in the 3 options can be downloaded from the GTS website, see paragraph '[About web services](#)' for download link;

Option 1

Use the distributed WSDL's to generate basic proxy code and use the distributed XSD's to generate data contract code. Insert in the code the correct data types in the SOAP Body.

An example client, written in C# for Microsoft Visual Studio 2015, that is created with this option, can be downloaded from the GTS website:

- B2B Example Message (GTS.B2B.Example-vs2015)

Link: <https://www.gasunie.nl/transportservices/en/shippers/balancing-regime/documents/shippers-and-suppliers>

The steps on how the example is created are included with the example.

Option 2:

Edit the distributed WSDL's to include the distributed XSD's, and use the resulting WSDL's as a basis to generate client code.

Option 3:

Implement a client manually that communicates with the endpoints specified (find Operation names and SOAP actions in the distributed WSDL's), and send/receive messages as specified in the distributed XSD's.

3.2 Example Soapmessage query and response

1. Example SOAP query message:

```
<soapenv:Envelope
xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:stan="http://www.gasunie.nl/mtb/cub/data/1/standard">
  <soapenv:Header/>
  <soapenv:Body>
    <stan:AnalysisAccountableRunRestEnergyQuery>
      <stan:PortfolioID>12345</stan:PortfolioID>
      <stan:NetworkpointID>30000</stan:NetworkpointID>
      <stan:SetDateFrom>2010-10-
10T09:50:00+01:00</stan:SetDateFrom>
      <stan:SetDateTo>2010-10-11T10:50:00+01:00</stan:SetDateTo>
      <stan:DataSelection>ALL</stan:DataSelection>
      <stan:BusinessDocumentHeader>
        <stan:CreationTimestamp>2010-10-
10T09:50:00+01:00</stan:CreationTimestamp>
```

```

        <stan:MessageID>598e8400-e29b-41d5-a716-
446655440001</stan:MessageID>
    </stan:BusinessDocumentHeader>
    </stan:AnalysisAccountableRunRestEnergyQuery>
</soapenv:Body>
</soapenv:Envelope>

```

2. When this query is submitted, including certificate, to the appropriate GTS web service (for this query <https://b2b.gastransportservices.nl/AnalysisMetering.svc>), the response from GTS will look like the example below:

```

<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Body>
    <ns0:AnalysisAccountableRunRestEnergyResponse
xmlns:ns0="http://www.gasunie.nl/mtb/cub/data/1/standard">
      <ns0:SetDateFrom>2010-10-10T09:50:00+01:00</ns0:SetDateFrom>
      <ns0:SetDateTo>2010-10-11T10:50:00+01:00</ns0:SetDateTo>
      <ns0:DataSelection>ALL</ns0:DataSelection>
      <ns0:Portfolio>
        <ns0:PortfolioID>Strin1</ns0:PortfolioID>
        <ns0:Networkpoint>
          <ns0:NetworkpointID>Strin4</ns0:NetworkpointID>
          <ns0:Run>
            <ns0:UnitNumber>String</ns0:UnitNumber>
            <ns0:Station>
              <ns0:StationID>Stri5</ns0:StationID>
            </ns0:Station>
            <ns0:RunMeasurement>
              <ns0:CycleDateTime>2001-12-
17T15:30:47+01:00</ns0:CycleDateTime>
              <ns0:RestEnergy>
                <ns0:EnergyUnit>KWH</ns0:EnergyUnit>
                <ns0:EnergyAmount>4.141592</ns0:EnergyAmount>
              </ns0:RestEnergy>
            </ns0:RunMeasurement>
          </ns0:Run>
        </ns0:Networkpoint>
      </ns0:Portfolio>
      <ns0:BusinessDocumentHeader>
        <ns0:CreationTimestamp>2010-10-
10T09:50:02+01:00</ns0:CreationTimestamp>
        <ns0:MessageID>4bf83d49-b8b1-4aaa-9e8f-
92583a3e5978</ns0:MessageID>
      </ns0:BusinessDocumentHeader>
      <ns0:Result>
        <ns0:ResultCode>Strin6</ns0:ResultCode>
        <ns0:ResultText>Strin7</ns0:ResultText>
      </ns0:Result>
    </ns0:AnalysisAccountableRunRestEnergyResponse>
  </s:Body>
</s:Envelope>

```