

Technical description of solutions for exchanging messages edig@s using AS4 standard

Appendices list		
Appendix number	Appendix description	Appendix
1.	OASIS ebXML Messaging Services Version 3.0: Part 1, Core Features	http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/core/ebms_core-3.0-spec.pdf
2.	ENTSOG AS4 Profile	http://www.entsog.eu/public/uploads/files/publications/INT%20Network%20Code/2014/int0488%20131206%20as4%20usage%20profile%20v1r0.pdf
3.	ENTSOG AS4 Mapping table	http://www.entsog.eu/public/uploads/files/publications/INT%20Network%20Code/2015/INT0698_150625_ENTSOG_AS4_Mapping%20Table_1r0.xls
4.	Nomination and Matching Process	http://www.edigas.org/wp-content/Downloads/nominationAndMatchingv51r3.pdf http://www.edigas.org/wp-content/Downloads/8GeneralServiceProcess2-0.pdf
5.	Description of NOMINT, NOMRES, ACKNOW, DELORD, DELRES (Edig@s 5.1) attributes	http://www.gaz-system.pl/strefa-klienta/do-pobrania/wymiana-danych/edigs/

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1. Introduction

1.1 Purpose of the project

To enable the exchange of messages edig@s (NOMINT, NOMRES, ACKNOW, DELORD, DELRES) with the use of WebServices and the AS4 standard.

2. General assumptions

1. It is assumed that in the communication between GAZ-SYSTEM's internal applications and external entities, an Enterprise Service Bus (B2B instance) will be used as an intermediary tool.
2. WebServices (SOAP over HTTP) made available by GAZ-SYSTEM internal applications shall be used for communication of the Enterprise Service Bus with those applications.
3. To enable communication between the Enterprise Service Bus and external entities, the AS4 standard will be used, what will provide for safe communication with the use of WebServices (SOAP over HTTP), independent of the exchanged data.
4. The interface providing for the submission of nominations made available to external entities will be based on EDIG@S 5.1 v1 messages. NOMINT, NOMRES and ACKNOW as well as EDIG@S 4.0 NOMINT, NOMRES and ACKNOW. The document indicates the latest versions of binding standards (5.1.3 and 4.0.9). It will be possible to administratively turn the Format 4.0 on and off. The interface providing for exchanging information in the matching process will be based on EDIG@S 5.1 messages. DELORD, DELRES and ACKNOW as well as EDIG@S 4.0 DELORD, DELRES and ACKNOW.

The numbers of versions 5.1 and 4.0 will be matched to customer requirements before the implementation stage, which will result in corresponding changes in folders and documents naming.

5. Sequences and semantics of listed messages NOMINT, NOMRES, ACKNOW, DELORD and DELRES is defined by the EDIG@AS 5.1 process: Nomination and Matching Process Release 3 and General Service Process Release 2
6. The <soap:Body> elements in SOAP messages is always empty. All data is transmitted in the form of MIME pieces with the use of SOAP-with-Attachments extension

3. Communication specification when using AS4

3.1 WebService AS4 for external entities

Addresses of access points that supports AS4 for use by external partners for the production and test environments will be made available by the GAZ-SYSTEM within the procedure of joining new partner.

WSDL definition for the above WebService:

```
<?xml version="1.0" encoding="UTF-8"?><wsdl:definitions xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl" xmlns:mime="http://schemas.xmlsoap.org/wsdl/mime/"
xmlns:tns="http://ws.apache.org/axis2" xmlns:http="http://schemas.xmlsoap.org/wsdl/http/"
xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/" xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
targetNamespace="http://ws.apache.org/axis2">
  <wsdl:documentation>msh</wsdl:documentation>
  <wsdl:types/>
  <wsdl:message name="receiveRequest"/>
  <wsdl:message name="receiveResponse"/>
  <wsdl:portType name="mshPortType">
    <wsdl:operation name="receive">
      <wsdl:input message="tns:receiveRequest" wsaw:Action="urn:receive"/>
      <wsdl:output message="tns:receiveResponse" wsaw:Action="urn:receiveResponse"/>
    </wsdl:operation>
  </wsdl:portType>
  <wsdl:binding name="mshSoap11Binding" type="tns:mshPortType">
    <soap:binding transport="http://schemas.xmlsoap.org/soap/http" style="document"/>
    <wsdl:operation name="receive">
      <soap:operation soapAction="urn:receive" style="document"/>
      <wsdl:input>
        <soap:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
  </wsdl:binding>
  <wsdl:binding name="mshSoap12Binding" type="tns:mshPortType">
    <soap12:binding transport="http://schemas.xmlsoap.org/soap/http" style="document"/>
    <wsdl:operation name="receive">
      <soap12:operation soapAction="urn:receive" style="document"/>
      <wsdl:input>
        <soap12:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap12:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
  </wsdl:binding>
  <wsdl:binding name="mshHttpBinding" type="tns:mshPortType">
    <http:binding verb="POST"/>
    <wsdl:operation name="receive">
      <http:operation location="receive"/>
      <wsdl:input>
        <mime:content type="application/xml" part="parameters"/>
      </wsdl:input>
      <wsdl:output>
        <mime:content type="application/xml" part="parameters"/>
      </wsdl:output>
    </wsdl:operation>
  </wsdl:binding>
  <wsdl:service name="msh">
    <wsdl:port name="mshJmsSoap11Endpoint" binding="tns:mshSoap11Binding">
      <soap:address location=""/>
    </wsdl:port>
    <wsdl:port name="mshHttpSoap11Endpoint" binding="tns:mshSoap11Binding">
      <soap:address location="AS4_GAZSYSTEM_ENDPOINT_LOCATION_URL"/>
    </wsdl:port>
    <wsdl:port name="mshHttpsSoap11Endpoint" binding="tns:mshSoap11Binding">
      <soap:address location=""/>
    </wsdl:port>
    <wsdl:port name="mshHttpsSoap12Endpoint" binding="tns:mshSoap12Binding">
      <soap12:address location=""/>
    </wsdl:port>
  </wsdl:service>
</wsdl:definitions>
```

```

</wsdl:port>
<wsdl:port name="mshHttpSoap12Endpoint" binding="tns:mshSoap12Binding">
  <soap12:address location="AS4_GAZSYSTEM_ENDPOINT_LOCATION_URL"/>
</wsdl:port>
<wsdl:port name="mshJmsSoap12Endpoint" binding="tns:mshSoap12Binding">
  <soap12:address location=""/>
</wsdl:port>
<wsdl:port name="mshHttpEndpoint" binding="tns:mshHttpBinding">
  <http:address location="AS4_GAZSYSTEM_ENDPOINT_LOCATION_URL"/>
</wsdl:port>
<wsdl:port name="mshHttpsEndpoint" binding="tns:mshHttpBinding">
  <http:address location=""/>
</wsdl:port>
</wsdl:service>
</wsdl:definitions>

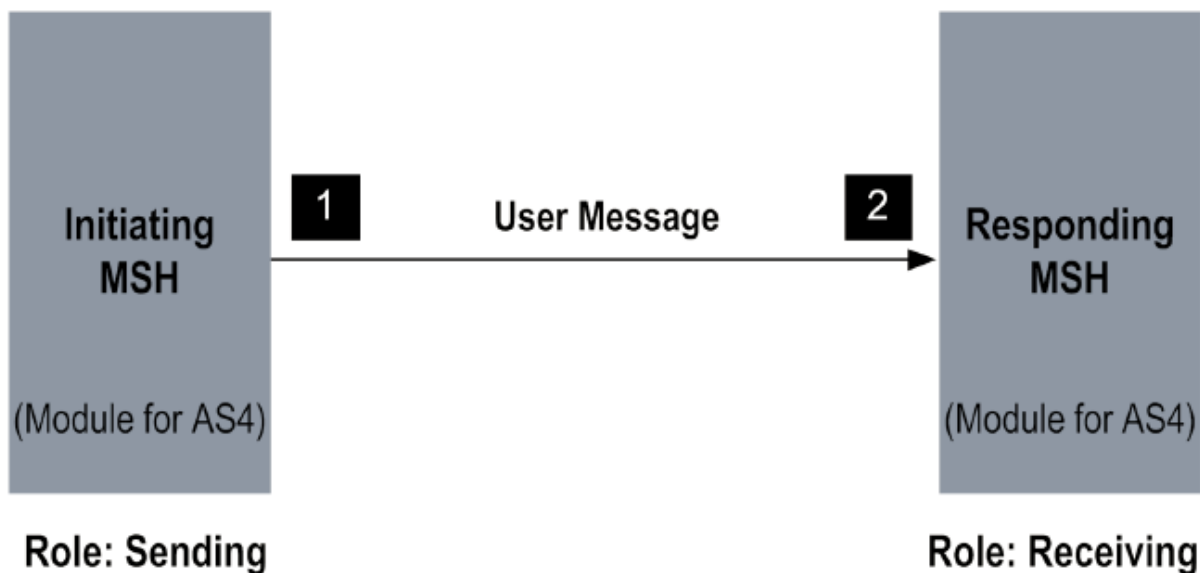
```

3.2 Supported AS4 communication patterns (MEPs):

The solution supports one communication pattern available in the AS4 standard:

3.2.1 One-Way/Push MEP

In this communication pattern, an initiating partner (initiating MSH - an external entity or GAZ-SYSTEM - 1) sends a message to the responding partner (responding MSH - an external entity or GAZ-SYSTEM - 2) and synchronously receives information on the HTTP response status (202). This pattern is illustrated by the following diagram:



All messages should be sent in accordance with this pattern: NOMINT and ACKNOW sent from the external partner to GAZ-SYSTEM, as well as NOMRES and ACKNOW from GAZ-SYSTEM to the external partner.

3.2.2 SOAP messages in the AS standard for the aforementioned communication patterns.

Note: We assume that in the specified messages only the name of the external partner (customer1) should change, partner's ID (11-11-11-11, 22-22-22-22). The business content of messages is not visible in the following examples, because it is attached as independent MIME pieces in HTTP inquiries and responses (only references to those messages are visible [cid:nomint](#), [cid:nomres](#), [cid:acknow](#)).

Specification of NOMINT, NOMRES, ACKNOW, DELORD and DELRES messages is contained in Appendices 4-9.

All of the following messages are listed as part of the service (S4 Service): **A06**.

The ACKNOW message is an optional message for the **Edigas 5.1 Nomination and Matching Process**. Its use is a matter of an arrangement between GAZ-SYSTEM and the external entity.

Communication pattern (MEP)	Initiating partner (initiating MSH) an its role in EDIG@S	Responding partner (responding MSH) an its role in EDIG@S	Business content of the message (EIDG@S message type)
One-Way/Push	External entity, ZSH role (Shipper)	GAZ-SYSTEM, ZSO (System Operator)	NOMINT (01G , Nomination, Nomination adjustment)

SOAP message:

```
<?xml version="1.0" encoding="UTF-8" ?>
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope" xmlns:S11="S11"
xmlns:eb="http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/ns/core/200704/">
  <soap:Header>
    <eb:Messaging S11:mustUnderstand="1">
      <eb:UserMessage>
        <eb:MessageInfo>
          <eb:Timestamp>2015-10-21T14:09:05</eb:Timestamp>
          <eb:MessageId>123</eb:MessageId>
        </eb:MessageInfo>
        <eb:PartyInfo>
          <eb:From>
            <eb:PartyId type="EIC">22-22-22-22</eb:PartyId>
            <eb:Role>ZSH</eb:Role>
          </eb:From>
          <eb:To>
            <eb:PartyId type="EIC">11-11-11-11</eb:PartyId>
            <eb:Role>ZSO</eb:Role>
          </eb:To>
        </eb:PartyInfo>
        <eb:CollaborationInfo>
          <eb:AgreementRef>http://gaz-system.pl/NominationAPI/tpa/klient1/push</eb:AgreementRef>
          <eb:Service>A06</eb:Service>
          <eb:Action>http://docs.oasis-open.org/ebxml-msg/as4/200902/action</eb:Action>
          <eb:ConversationId>456</eb:ConversationId>
        </eb:CollaborationInfo>
        <eb:PayloadInfo>
          <eb:PartInfo href="cid:nomint">
            <eb3:PartProperties>
              <eb3:Property
name="MimeType">application/xml</eb3:Property>
              <eb3:Property name="CharacterSet">UTF-8</eb3:Property>
              <eb3:Property
name="CompressionType">application/gzip</eb3:Property>
              <eb3:Property
name="EDIGASDocumentType">01G</eb3:PartProperties>
            </eb:PartInfo>
          </eb:PayloadInfo>
        </eb:UserMessage>
      </eb:Messaging>
    </soap:Header>
  </soap:Body/>
</soap:Envelope>
```

Communication pattern (MEP)	Initiating partner (initiating MSH) an its role in EDIG@S	Responding partner (responding MSH) an its role in EDIG@S	Business content of the message (EIDG@S message type)
One-Way/Push	GAZ-SYSTEM, ZSO (System Operator)	External entity, ZSH role (Shipper)	ACKNOW (294 , Application error and acknowledgement)

SOAP message:

```
<?xml version="1.0" encoding="UTF-8" ?>
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope" xmlns:S11="S11"
xmlns:eb="http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/ns/core/200704/">
  <soap:Header>
    <eb:Messaging S11:mustUnderstand="1">
      <eb:UserMessage>
        <eb:MessageInfo>
          <eb:Timestamp>2015-10-21T14:09:05</eb:Timestamp>
          <eb:MessageId>123</eb:MessageId>
        </eb:MessageInfo>
        <eb:PartyInfo>
          <eb:From>
            <eb:PartyId type="EIC">11-11-11-11</eb:PartyId>
            <eb:Role>ZSO</eb:Role>
          </eb:From>
          <eb:To>
            <eb:PartyId type="EIC">22-22-22-22</eb:PartyId>
            <eb:Role>ZSH</eb:Role>
          </eb:To>
        </eb:PartyInfo>
        <eb:CollaborationInfo>
          <eb:AgreementRef>http://gaz-system.pl/NominationAPI/tpa/klient1/push</eb:AgreementRef>
          <eb:Service>A06</eb:Service>
          <eb:Action>http://docs.oasis-open.org/ebxml-msg/as4/200902/action</eb:Action>
          <eb:ConversationId>456</eb:ConversationId>
        </eb:CollaborationInfo>
        <eb:PayloadInfo>
          <eb:PartInfo href="cid:acknow">
            <eb3:PartProperties>
              <eb3:Property
name="MimeType">application/xml</eb3:Property>
              <eb3:Property name="CharacterSet">UTF-8</eb3:Property>
              <eb3:Property
name="CompressionType">application/gzip</eb3:Property>
              <eb3:Property
name="EDIGASDocumentType">294</eb3:Property>
            </eb3:PartProperties>
          </eb:PartInfo>
        </eb:PayloadInfo>
      </eb:UserMessage>
    </eb:Messaging>
  </soap:Header>
</soap:Body/>
</soap:Envelope>
```

Communication pattern (MEP)	Initiating partner (initiating MSH) an its role in EDIG@S	Responding partner (responding MSH) an its role in EDIG@S	Business content of the message (EIDG@S message type)
One-Way/Push	GAZ-SYSTEM, ZSO (System Operator)	External entity, ZSH role (Shipper)	NOMRES (08G, Confirmation Notice)

SOAP message:

```
<?xml version="1.0" encoding="UTF-8" ?>
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope" xmlns:S11="S11"
xmlns:eb="http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/ns/core/200704/">
  <soap:Header>
    <eb:Messaging S11:mustUnderstand="1">
      <eb:UserMessage>
        <eb:MessageInfo>
          <eb:Timestamp>2015-10-21T14:09:05</eb:Timestamp>
          <eb:MessageId>123</eb:MessageId>
        </eb:MessageInfo>
        <eb:PartyInfo>
          <eb:From>
            <eb:PartyId type="EIC">11-11-11-11</eb:PartyId>
            <eb:Role>ZSO</eb:Role>
          </eb:From>
          <eb:To>
            <eb:PartyId type="EIC">22-22-22-22</eb:PartyId>
            <eb:Role>ZSH</eb:Role>
          </eb:To>
        </eb:PartyInfo>
        <eb:CollaborationInfo>
          <eb:AgreementRef>http://gaz-system.pl/NominationAPI/tpa/klient1/push</eb:AgreementRef>
          <eb:Service>A06</eb:Service>
        </eb:CollaborationInfo>
      </eb:UserMessage>
    </eb:Messaging>
  </soap:Header>
</soap:Body/>
</soap:Envelope>
```

```

        <eb:Action>http://docs.oasis-open.org/ebxml-msg/as4/200902/action</eb:Action>
        <eb:ConversationId>123456</eb:ConversationId>
    </eb:CollaborationInfo>
    <eb:PayloadInfo>
        <eb:PartInfo href="cid:nomres">
            <eb3:PartProperties>
                <eb3:Property
name="MimeType">application/xml</eb3:Property>
                <eb3:Property name="CharacterSet">UTF-8</eb3:Property>
                <eb3:Property
name="CompressionType">application/gzip</eb3:Property>
                <eb3:Property
name="EDIGASDocumentType">08G</eb3:PartProperties>
            </eb:PartInfo>
        </eb:PayloadInfo>
    </eb:UserMessage>
</eb:Messaging>
</soap:Header>
<soap:Body/>
</soap:Envelope>

```

Communication pattern (MEP)	Initiating partner (initiating MSH) an its role in EDIG@S	Responding partner (responding MSH) an its role in EDIG@S	Business content of the message (EIDG@S message type)
One-Way/Push	GAZ-SYSTEM, ZSO (System Operator)	External entity, ZSH role (Shipper)	NOMRES (AND, Interruption notice)

SOAP message:

```

<?xml version="1.0" encoding="UTF-8" ?>
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope" xmlns:S11="S11"
xmlns:eb="http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/ns/core/200704/">
  <soap:Header>
    <eb:Messaging S11:mustUnderstand="1">
      <eb:UserMessage>
        <eb:MessageInfo>
          <eb:Timestamp>2015-10-21T14:09:05</eb:Timestamp>
          <eb:MessageId>123</eb:MessageId>
        </eb:MessageInfo>
        <eb:PartyInfo>
          <eb:From>
            <eb:PartyId type="EIC">11-11-11-11</eb:PartyId>
            <eb:Role>ZSO</eb:Role>
          </eb:From>
          <eb:To>
            <eb:PartyId type="EIC">22-22-22-22</eb:PartyId>
            <eb:Role>ZSH</eb:Role>
          </eb:To>
        </eb:PartyInfo>
        <eb:CollaborationInfo>
          <eb:AgreementRef>http://gaz-system.pl/NominationAPI/tpa/klient1/push</eb:AgreementRef>
          <eb:Service>A06</eb:Service>
          <eb:Action>http://docs.oasis-open.org/ebxml-msg/as4/200902/action</eb:Action>
          <eb:ConversationId>123456</eb:ConversationId>
        </eb:CollaborationInfo>
        <eb:PayloadInfo>
          <eb:PartInfo href="cid:nomres">
            <eb3:PartProperties>
                <eb3:Property
name="MimeType">application/xml</eb3:Property>
                <eb3:Property name="CharacterSet">UTF-8</eb3:Property>
                <eb3:Property
name="CompressionType">application/gzip</eb3:Property>
                <eb3:Property
name="EDIGASDocumentType">AND</eb3:PartProperties>
            </eb:PartInfo>
          </eb:PayloadInfo>
        </eb:UserMessage>
      </eb:Messaging>
    </soap:Header>
    <soap:Body/>
  </soap:Envelope>

```

Communication pattern (MEP)	Initiating partner (initiating MSH) an its role in EDIG@S	Responding partner (responding MSH) an its role in EDIG@S	Business content of the message (EIDG@S message type)
One-Way/Push	External entity, ZSH role (Shipper)	GAZ-SYSTEM, ZSO (System Operator)	ACKNOW (294, Application error and acknowledgement)

SOAP message:

```
<?xml version="1.0" encoding="UTF-8" ?>
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope" xmlns:S11="S11"
xmlns:eb="http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/ns/core/200704/">
  <soap:Header>
    <eb:Messaging S11:mustUnderstand="1">
      <eb:UserMessage>
        <eb:MessageInfo>
          <eb:Timestamp>2015-10-21T14:09:05</eb:Timestamp>
          <eb:MessageId>123</eb:MessageId>
        </eb:MessageInfo>
        <eb:PartyInfo>
          <eb:From>
            <eb:PartyId type="EIC">22-22-22-22</eb:PartyId>
            <eb:Role>ZSH</eb:Role>
          </eb:From>
          <eb:To>
            <eb:PartyId type="EIC">11-11-11-11</eb:PartyId>
            <eb:Role>ZSO</eb:Role>
          </eb:To>
        </eb:PartyInfo>
        <eb:CollaborationInfo>
          <eb:AgreementRef>http://gaz-system.pl/NominationAPI/tpa/klient1/push</eb:AgreementRef>
          <eb:Service>A06</eb:Service>
          <eb:Action>http://docs.oasis-open.org/ebxml-msg/as4/200902/action</eb:Action>
          <eb:ConversationId>456</eb:ConversationId>
        </eb:CollaborationInfo>
        <eb:PayloadInfo>
          <eb:PartInfo href="cid:acknow">
            <eb3:PartProperties>
              <eb3:Property
name="MimeType">application/xml</eb3:Property>
              <eb3:Property name="CharacterSet">UTF-8</eb3:Property>
              <eb3:Property
name="CompressionType">application/gzip</eb3:Property>
              <eb3:Property
name="EDIGASDocumentType">294</eb3:PartProperties>
            </eb:PartInfo>
          </eb:PayloadInfo>
        </eb:UserMessage>
      </eb:Messaging>
    </soap:Header>
    <soap:Body/>
  </soap:Envelope>
```

Communication pattern (MEP)	Initiating partner (initiating MSH) an its role in EDIG@S	Responding partner (responding MSH) an its role in EDIG@S	Business content of the message (EIDG@S message type)
One-Way/Push	External entity or GAZ-SYSTEM – depending on the role, ZSO (System Operator)	GAZ-SYSTEM or external entity – depending on the role, ZSO (System Operator)	DELORD (26G, Callup notice)

SOAP message:

```
<?xml version="1.0" encoding="UTF-8" ?>
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope" xmlns:S11="S11"
xmlns:eb="http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/ns/core/200704/">
  <soap:Header>
    <eb:Messaging S11:mustUnderstand="1">
      <eb:UserMessage>
        <eb:MessageInfo>
          <eb:Timestamp>2015-10-21T14:09:05</eb:Timestamp>
          <eb:MessageId>123</eb:MessageId>
```

```

</eb:MessageInfo>
<eb:PartyInfo>
  <eb:From>
    <eb:PartyId type="EIC">22-22-22-22</eb:PartyId>
    <eb:Role>ZSO</eb:Role>
  </eb:From>
  <eb:To>
    <eb:PartyId type="EIC">11-11-11-11</eb:PartyId>
    <eb:Role>ZSO</eb:Role>
  </eb:To>
</eb:PartyInfo>
<eb:CollaborationInfo>
  <eb:AgreementRef>http://gaz-system.pl/NominationAPI/tpa/klient1/push</eb:AgreementRef>
  <eb:Service>A06</eb:Service>
  <eb:Action>http://docs.oasis-open.org/ebxml-msg/as4/200902/action</eb:Action>
  <eb:ConversationId>456</eb:ConversationId>
</eb:CollaborationInfo>
<eb:PayloadInfo>
  <eb:PartInfo href="cid:nomint">
    <eb3:PartProperties>
      <eb3:Property
name="MimeType">application/xml</eb3:Property>
      <eb3:Property name="CharacterSet">UTF-8</eb3:Property>
      <eb3:Property
name="CompressionType">application/gzip</eb3:Property>
      <eb3:Property
name="EDIGASDocumentType">26G</eb3:Property>
    </eb3:PartProperties>
  </eb:PartInfo>
</eb:PayloadInfo>
</eb:UserMessage>
</eb:Messaging>
</soap:Header>
<soap:Body/>
</soap:Envelope>

```

Communication pattern (MEP)	Initiating partner (initiating MSH) an its role in EDIG@S	Responding partner (responding MSH) an its role in EDIG@S	Business content of the message (EIDG@S message type)
One-Way/Push	External entity or GAZ-SYSTEM – depending on the role, ZSO (System Operator)	GAZ-SYSTEM or external entity – depending on the role, ZSO (System Operator)	DELORD (ANC, Forwarded single sided nomination)

SOAP message:

```

<?xml version="1.0" encoding="UTF-8" ?>
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope" xmlns:S11="S11"
xmlns:eb="http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/ns/core/200704/">
  <soap:Header>
    <eb:Messaging S11:mustUnderstand="1">
      <eb:UserMessage>
        <eb:MessageInfo>
          <eb:Timestamp>2015-10-21T14:09:05</eb:Timestamp>
          <eb:MessageId>123</eb:MessageId>
        </eb:MessageInfo>
        <eb:PartyInfo>
          <eb:From>
            <eb:PartyId type="EIC">22-22-22-22</eb:PartyId>
            <eb:Role>ZSO</eb:Role>
          </eb:From>
          <eb:To>
            <eb:PartyId type="EIC">11-11-11-11</eb:PartyId>
            <eb:Role>ZSO</eb:Role>
          </eb:To>
        </eb:PartyInfo>
        <eb:CollaborationInfo>
          <eb:AgreementRef>http://gaz-system.pl/NominationAPI/tpa/klient1/push</eb:AgreementRef>
          <eb:Service>A06</eb:Service>
          <eb:Action>http://docs.oasis-open.org/ebxml-msg/as4/200902/action</eb:Action>
          <eb:ConversationId>456</eb:ConversationId>
        </eb:CollaborationInfo>
        <eb:PayloadInfo>
          <eb:PartInfo href="cid:nomint">
            <eb3:PartProperties>

```

```

name="MimeType">application/xml</eb3:Property>
name="CompressionType">application/gzip</eb3:Property>
name="EDIGASDocumentType">ANC</eb3:PartProperties>
</eb:PartInfo>
</eb:PayloadInfo>
</eb:UserMessage>
</eb:Messaging>
</soap:Header>
<soap:Body/>
</soap:Envelope>

```

Communication pattern (MEP)	Initiating partner (initiating MSH) an its role in EDIG@S	Responding partner (responding MSH) an its role in EDIG@S	Business content of the message (EIDG@S message type)
One-Way/Push	GAZ-SYSTEM or external entity – depending on the role, ZSO (System Operator)	External entity or GAZ-SYSTEM – depending on the role, ZSO (System Operator)	DELRES(27G , Callup response)

SOAP message:

```

<?xml version="1.0" encoding="UTF-8" ?>
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope" xmlns:S11="S11"
xmlns:eb="http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/ns/core/200704/">
  <soap:Header>
    <eb:Messaging S11:mustUnderstand="1">
      <eb:UserMessage>
        <eb:MessageInfo>
          <eb:Timestamp>2015-10-21T14:09:05</eb:Timestamp>
          <eb:MessageId>123</eb:MessageId>
        </eb:MessageInfo>
        <eb:PartyInfo>
          <eb:From>
            <eb:PartyId type="EIC">22-22-22-22</eb:PartyId>
            <eb:Role>ZSO</eb:Role>
          </eb:From>
          <eb:To>
            <eb:PartyId type="EIC">11-11-11-11</eb:PartyId>
            <eb:Role>ZSO</eb:Role>
          </eb:To>
        </eb:PartyInfo>
        <eb:CollaborationInfo>
          <eb:AgreementRef>http://gaz-system.pl/NominationAPI/tpa/klient1/push</eb:AgreementRef>
          <eb:Service>A06</eb:Service>
          <eb:Action>http://docs.oasis-open.org/ebxml-msg/as4/200902/action</eb:Action>
          <eb:ConversationId>456</eb:ConversationId>
        </eb:CollaborationInfo>
        <eb:PayloadInfo>
          <eb:PartInfo href="cid:nomint">
            <eb3:PartProperties>
              <eb3:Property
name="MimeType">application/xml</eb3:Property>
              <eb3:Property name="CharacterSet">UTF-8</eb3:Property>
              <eb3:Property
name="CompressionType">application/gzip</eb3:Property>
              <eb3:Property
name="EDIGASDocumentType">27G</eb3:PartProperties>
            </eb:PartInfo>
          </eb:PayloadInfo>
        </eb:UserMessage>
      </eb:Messaging>
    </soap:Header>
    <soap:Body/>
  </soap:Envelope>

```

3.3 Security of transmitted data

3.3.1 Communication security at the transport level

Communication between an external entity and GAZ-SYSTEM, within the transport layer, shall be secured with a TLS protocol with server authentication (GAZ-SYSTEM) under the following assumptions:

- Communication with external entity GAZ-SYSTEM in the transport layer will be protected with a protocol at least TLS 1.1 with server authentication (GAZ-SYSTEM) using certificate X.509 with key length at least 2048 bit and SHA256 signature.
- As part of the communication security will be used Cipher Suites with at least 128 bit key, implement the mechanism Forward Secrecy, without the use of RC4 and Diffie-Hellman. In addition, it is not allowed renegotiation initiated by the customer.

A customer (external entity) does not have to be authenticated in this layer (which would be excessive in relation to the use of WS-Security) and does not have to present his certificate.

3.3.2 Communication security at the SOAP messaging level

SOAP messages will be secured with the use of the following Web Services Security version 1.1.1 OASIS standards:

- Web Services Security SOAP Message Security
- Web Services Security X.509 Certificate Token Profile
- Web Services Security SOAP Message with Attachments (SwA) Profile

3.3.3 Other communication requirements:

All attachments are compressed with GZIP (application/gzip).

4. New entity connection procedure

4.1 At GAZ-SYSTEM side

1. Establishing a profile for the partner along with a definition of certificates used to code and verify the messages (administration task).
 - a. Setting the entity EIC code as partner's ExternalID (ID type: EIC).
 - b. Importing the certificate (issued for GAZ-SYSTEM) and a private key used for signing SOAP messages sent by GAZ-SYSTEM
 - c. Importing the certificate (issued for GAZ-SYSTEM) and a private key used for decrypting SOAP messages received by GAZ-SYSTEM
 - d. Importing the certificate (issued for entity) used for verifying signature of SOAP messages received by GAZ-SYSTEM
 - e. Importing the certificate (issued for entity) used for encrypting SOAP messages sent by GAZ-SYSTEM
2. Creation of TPA (Trading Partner Agreement) for the entity.
3. Transferring a certificate providing confidentiality of information and authenticity of the server on which API is posted on the part of GAZ-SYSTEM to the entity, e.g. it can be a certificate for *.gaz-system.pl (security of the transport level).
4. Provision of an external partner with the certificates used to sign and code SOAP messages (SOAP message security).

4.2 At the connected entity side

1. Transfer of the EIC code of the entity to GAZ-SYSTEM and arrangement of the data exchange pattern (MEP).
2. Ensuring that the certificate of the GAZ-SYSTEM server or its CA is a trusted certificate
3. Provision of GAZ-SYSTEM with the certificates used to sign and code SOAP messages (SOAP message security).
4. Implementation of WebService customer for msh.wsdl WSDL and WSDL supporting NOMINT, NOMRES and ACKNOW (Appendix 4-7) or DELORD, DELRES, ACKNOW (Appendix 7-9) messages

4.3 Connection correctness verification

The test service as described in ENTSOG AS4 User Profile shall be made available in order to verify the correctness of configuration of the connected external entity. Test service messages have to have the following fields set in the SOAP header:

- UserMessage/CollaborationInfo/Service of a value of: **<http://docs.oasis-open.org/ebxmlmsg/ebms/v3.0/ns/core/200704/service>**
- UserMessage/CollaborationInfo/Action of a value of: **<http://docs.oasis-open.org/ebxmlmsg/ebms/v3.0/ns/core/200704/test>**

The test messages shall always include one document constituting the business content of the message in the form of a separate MIME piece. This document shall have the following definition:

```

<?xml version="1.0" encoding="UTF-8"?>
<schema targetNamespace="http://gaz-system.pl/TestService/message/1.0"
  elementFormDefault="qualified" xmlns="http://www.w3.org/2001/XMLSchema"
  xmlns:tsrv="http://gaz-system.pl/TestService/message/1.0">
  <include schemaLocation=""></include>
  <include schemaLocation=""></include>
  <include schemaLocation=""></include>

  <element name="testMessage" type="tsrv:TestMessage">
  </element>

  <complexType name="TestMessage">
    <sequence>
      <element name="pingText" type="string" minOccurs="1" maxOccurs="1"></element>
      <element name="pongText" type="string" minOccurs="0" maxOccurs="1"></element>
    </sequence>
  </complexType>
</schema>

```

Type name: **TestMessage**

Type namespace: **http://gaz-system.pl/TestService/message/1.0**

Version: **1.0**

Document root element name: **testMessage**

MIME Content-ID: **testMessage** (the document is represented as a MIME piece in the input SOAP message)

XML path	Required?	Data type	Description
testMessage/pingText	Yes	xs:string	Any text generated by a partner who initiates communication
testMessage/pongText	No	xs:string	Any text generated by a partner who receives the text message in case when the partner is configured to respond to this message (see below).

Other parameters such as message ID or timestamps shall be included in the SOAP header (UserMessage).

In accordance with the OASIS ebXML Messaging Services Version 3.0 specification: Part 1, Core Features (Appendix 1), a test message is a one way message - without the feedback answer (Ping message without corresponding Pong message). Therefore, such message is supported by One-Way/Push MEP.

As for the needs of the implemented solutions of measurement data sharing and nominations submission, a communication using other communication patterns will be implemented, the test service shall also support these patterns. This will facilitate testing and detecting irregularities of the configuration. All in all, the test service shall support the following MEP:

- One-Way/Push
 - When MEP is configured for one direction (from partner to GAZ-SYSTEM), the partner sends a test message (testMessage/pingText filled) and does not get any response apart from the HTTP 202 status.



push_test_request_
soap.xml

```
<?xml version="1.0" encoding="UTF-8" ?>
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope" xmlns:S11="S11"
xmlns:eb="http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/ns/core/200704/">
  <soap:Header>
    <eb:Messaging S11:mustUnderstand="1">
      <eb:UserMessage>
        <eb:MessageInfo>
          <eb:Timestamp>2015-10-21T14:09:05</eb:Timestamp>
          <eb:MessageId>123</eb:MessageId>
        </eb:MessageInfo>
        <eb:PartyInfo>
          <eb:From>
            <eb:PartyId type="EIC">22-22-22-22</eb:PartyId>
            <eb:Role>http://gaz-system.pl/TestService/role/from</eb:Role>
          </eb:From>
          <eb:To>
            <eb:PartyId type="EIC">11-11-11-11</eb:PartyId>
            <eb:Role>http://gaz-system.pl/TestService/role/to</eb:Role>
          </eb:To>
        </eb:PartyInfo>
        <eb:CollaborationInfo>
          <eb:AgreementRef>http://gaz-system.pl/TestService/tpa/klient1/push</eb:AgreementRef>
          <eb:Service>http://docs.oasis-open.org/ebxmlmsg/ebms/v3.0/ns/core/200704/service</eb:Service>
          <eb:Action>http://docs.oasis-open.org/ebxmlmsg/ebms/v3.0/ns/core/200704/test</eb:Action>
          <eb:ConversationId>1</eb:ConversationId>
        </eb:CollaborationInfo>
        <eb:PayloadInfo>
          <eb:PartInfo href="cid:testMessage">
            <eb:Schema location="http://gaz-system.pl/TestService/message-1.0.xsd" namespace="http://gaz-
system.pl/TestService/message/1.0" version="1.0"/>
              <eb:PartProperties>
                <eb:Property name="MimeType">application/xml</eb:Property>
                <eb:Property name="CharacterSet">UTF-8</eb:Property>
                <eb:Property name="CompressionType">application/gzip</eb:Property>
              </eb:PartProperties>
            </eb:PartInfo>
          </eb:PayloadInfo>
        </eb:UserMessage>
      </eb:Messaging>
    </soap:Header>
    <soap:Body/>
  </soap:Envelope>
```

- When MEPs are configured for both directions (from partner to GAZ-SYSTEM and from GAZ-SYSTEM to partner), the partner sends a test message (testMessage/pingText filled) and asynchronously receives a corresponding return test message (testMessage/pingText and testMessage/pongText filled).



push_test_request_
soap.xml

```
<?xml version="1.0" encoding="UTF-8" ?>
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope" xmlns:S11="S11"
xmlns:eb="http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/ns/core/200704/">
  <soap:Header>
    <eb:Messaging S11:mustUnderstand="1">
      <eb:UserMessage>
        <eb:MessageInfo>
          <eb:Timestamp>2015-10-21T14:09:05</eb:Timestamp>
          <eb:MessageId>123</eb:MessageId>
        </eb:MessageInfo>
        <eb:PartyInfo>
          <eb:From>
            <eb:PartyId type="EIC">22-22-22-22</eb:PartyId>
            <eb:Role>http://gaz-system.pl/TestService/role/from</eb:Role>
```

```

    </eb:From>
    <eb:To>
      <eb:PartyId type="EIC">11-11-11-11</eb:PartyId>
      <eb:Role>http://gaz-system.pl/TestService/role/to</eb:Role>
    </eb:To>
  </eb:PartyInfo>
  <eb:CollaborationInfo>
    <eb:AgreementRef>http://gaz-system.pl/TestService/tpa/klient1/push</eb:AgreementRef>
    <eb:Service>http://docs.oasis-open.org/ebxmlmsg/ebms/v3.0/ns/core/200704/service</eb:Service>
    <eb:Action>http://docs.oasis-open.org/ebxmlmsg/ebms/v3.0/ns/core/200704/test</eb:Action>
    <eb:ConversationId>1</eb:ConversationId>
  </eb:CollaborationInfo>
  <eb:PayloadInfo>
    <eb:PartInfo href="cid:testMessage">
      <eb:Schema location="http://gaz-system.pl/TestService/message-1.0.xsd" namespace="http://gaz-
system.pl/TestService/message/1.0" version="1.0"/>
      <eb:PartProperties>
        <eb:Property name="MimeType">application/xml</eb:Property>
        <eb:Property name="CharacterSet">UTF-8</eb:Property>
        <eb:Property name="CompressionType">application/gzip</eb:Property>
      </eb:PartProperties>
    </eb:PartInfo>
  </eb:PayloadInfo>
</eb:UserMessage>
</eb:Messaging>
</soap:Header>
<soap:Body/>
</soap:Envelope>

```



push_back_test_req
uest_soap.xml

```

<?xml version="1.0" encoding="UTF-8" ?>
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope" xmlns:S11="S11"
xmlns:eb="http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/ns/core/200704/">
  <soap:Header>
    <eb:Messaging S11:mustUnderstand="1">
      <eb:UserMessage>
        <eb:MessageInfo>
          <eb:Timestamp>2015-10-21T14:09:05</eb:Timestamp>
          <eb:MessageId>123</eb:MessageId>
        </eb:MessageInfo>
        <eb:PartyInfo>
          <eb:From>
            <eb:PartyId type="EIC">11-11-11-11</eb:PartyId>
            <eb:Role>http://gaz-system.pl/TestService/role/from</eb:Role>
          </eb:From>
          <eb:To>
            <eb:PartyId type="EIC">22-22-22-22</eb:PartyId>
            <eb:Role>http://gaz-system.pl/TestService/role/to</eb:Role>
          </eb:To>
        </eb:PartyInfo>
        <eb:CollaborationInfo>
          <eb:AgreementRef>http://gaz-system.pl/TestService/tpa/klient1/pushBack</eb:AgreementRef>
          <eb:Service>http://docs.oasis-open.org/ebxmlmsg/ebms/v3.0/ns/core/200704/service</eb:Service>
          <eb:Action>http://docs.oasis-open.org/ebxmlmsg/ebms/v3.0/ns/core/200704/test</eb:Action>
          <eb:ConversationId>1</eb:ConversationId>
        </eb:CollaborationInfo>
        <eb:PayloadInfo>
          <eb:PartInfo href="cid:testMessage">
            <eb:Schema location="http://gaz-system.pl/TestService/message-1.0.xsd" namespace="http://gaz-
system.pl/TestService/message/1.0" version="1.0"/>
            <eb:PartProperties>
              <eb:Property name="MimeType">application/xml</eb:Property>
              <eb:Property name="CharacterSet">UTF-8</eb:Property>
              <eb:Property name="CompressionType">application/gzip</eb:Property>
            </eb:PartProperties>
          </eb:PartInfo>
        </eb:PayloadInfo>
      </eb:UserMessage>
    </eb:Messaging>
  </soap:Header>
<soap:Body/>
</soap:Envelope>

```