



Web service Documentation

AUTORSHIP AND REVISION

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1. General Information

1.1 Intention of this document

This document describes the technical specification for the development of the ALSO / partner interface to connect to the ALSO Web service *price and availability*.

1.2 Explanation of tables

All elements for the messages are explained in a table:

- **Column 1: defines the element (tag or attribute) with hierarchy level.** The hierarchical levels are displayed with the pipe sign s | " for a tag. Attributes are displayed cursive with the s " sign. For Example:

XML Tags / Attribute	Description
-- DateStamp	This is a XML tag named DateStamp, which is two levels below the root element.
Ltype="Message	This is an attribute named type, which belongs to the XML tag DateStamp.
Request"	The Possible value for the attribute type is Message or Request.

Notice: Normally, the possible value for the attribute is fixed the specification.

- **Column 2: defines the number of iterations for the elements.** Examples:

0..1	The element can occur once or not once.
1	The element must occur once.
0..n	The element can occur multiple or not once.
1..n	The element must occur at least once and to a maximum of n.

Notice: If a tag does not contain an iteration or format description within this specification, there will be no data expected. It is just an introduction for another block of data (tag).

- **Column 3: defines the data type for an element.** The following data types are used:

- S: String
- N: Numeric value
- D: Date value

- **Column 4: defines the format for the data type.**

- At strings: Maximum field length
- At numeric values: digits before and after the comma, decimal separator is a point
- bei Datumswerten: maximum field length

Notice: If a Tag does not contain an iteration or format description within this specification, there will be no data expected. It is just an introduction for another block of data (tag).

- **Column 5: describes the content of an element**, maybe with example.

1.3 Contacts at ALSO

If you have any technical questions to this specification, please contact your contact person at the eBusiness Integration Team or use the e-mail address b2b@ALSO.com

2. Definitions

For better understanding, the used techniques will be shortly explained below.

Web service:

Web services are typically application programming interfaces (API) or Web APIs that are accessed via Hypertext Transfer Protocol (HTTP) and executed on a remote system hosting the requested services. (Source: Wikipedia)

SOAP:

SOAP, originally defined as Simple Object Access Protocol, is a protocol specification for exchanging structured information in the implementation of Web Services in computer networks. It relies on Extensible Markup Language (XML) for its message format, and usually relies on other Application Layer protocols, most notably Remote Procedure Call (RPC) and Hypertext Transfer Protocol (HTTP), for message negotiation and transmission. (Source: Wikipedia)

WSDL:

The Web Services Description Language (WSDL) is an XML-based language that provides a model for describing Web services. The WSDL defines services as collections of network endpoints, or ports. The WSDL specification provides an XML format for documents for this purpose. The abstract definitions of ports and messages are separated from their concrete use or instance, allowing the reuse of these definitions. (Source: Wikipedia)

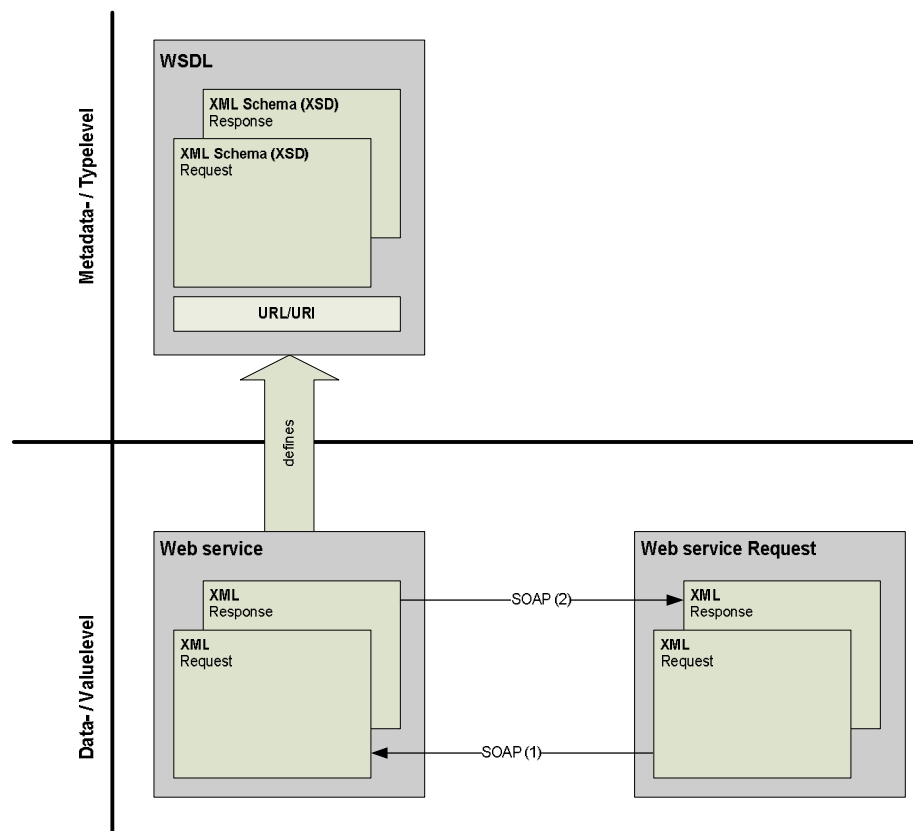


Illustration 1: W3C Web service definition

You can get detailed information about Web services, WSDL and SOAP at <http://www.w3.org/2002/ws/>

3. Communication protocol information

3.1 Message encoding

All messages sent by ALSO are encoded in UTF-. For incoming messages ALSO awaits at least UTF-8, UTF-16 or ISO-8859-1 encoded messages.

The used encoding has to be written in the xml prologue (see Chapter 3.3.1 MIME Header).

3.2 Communication protocols

3.2.1 Incoming messages

For communication ALSO prefers HTTPS communication. Please be advised, that ALSO only accepts incoming messages on HTTPS standard port 443.

3.3 Requirements for HTTP communication

3.3.1 MIME Header

For the correct message transference and routing the following content types and mime header declarations are expected:

```
Content-Type: text/xml; charset="utf-8"

<?xml version="1.0" encoding="utf-8">
```

This is the recommended charset for the use of text/xml. Alternatively, the charset inside the mime header can also be left out:

```
Content-Type: text/xml

<?xml version="1.0" encoding="utf-8">
```

For further information please visit:
www.faqs.org/rfcs/rfc2376.html

3.3.2 HTTP Methods

Through a method the server knows how to handle the incoming request. The Method sends data for further processing to the server.

This means ALSO sends all outgoing messages with the HTTP post method. The incoming messages are also expected in form of the HTTP post method from the partner.

3.3.3 HTTP Status Codes

A HTTP status code tells the client how the request has been processed. HTTP status codes are in the first line of HTTP data for a request. In the following example the status code is 200: HTTP/1.0 200 OK%

The client will receive a HTTP status code 200 if ALSO received the message successfully. ALSO also expects a 200 code if the partner has received a message successfully.

Status code table:

Overall Range	Defined Range	Category
100-199	100-101	Informational
200-299	200-206	Successful
300-399	300-305	Redirection
400-499	400-415	Client Error
500-599	500-505	Server Error

Further information under:

http://www.helpwithpcs.com/courses/html/html_http_status_codes.htm

3.4 Authentication

3.4.1 Incoming messages

In order to identify the partner an authentication is expected for all incoming messages. For this purpose the HTTP basic authentication is used. The user name and password must be encoded through base 64 within the authentication header which is situated within the mime header. An example:

```
Content-Type: text/xml  
  
Authorization: Basic VXNlcm5hbWU6UGFzc3dvcnQ=
```

Further information to the basic authentication under:

http://de.wikipedia.org/wiki/HTTP-Authentifizierung#Basic_Authentication

A base64 encoder/ decoder can be found here:

www.motobit.com/util/base64-decoder-encoder.asp

3.5 Receive parameters for ALSO HTTP gateways

ALSO has two systems (test and production) for receiving messages:

Test: <https://b2b-test.ALSO.com/soap/rpc>

Production: <https://b2b.ALSO.com/soap/rpc>

Please note the information at Chapters 3.1 . 3.4.

4.1.3.4 Scale prices (Optional)

Scale prices will only be transmitted if available. Please use the standard price request, with the field *ShowScalePrice* set to X.

Notice: Contract and bundle article requests are not available for this option!

4.1.4 Output structure – Response

XML Tags / Attributes	It.	Type	Length	Description
-- ProjectReferenceNumber	0..1	N	10	Project- or Contract number
-- CONT_END_DATE	0..1	S	25	Contract or Project end date
-- LineNumber	1	S	6	Linenummer
-- MaterialNumber	1	N	8	Material number
-- MonetaryAmount	0..1	N	10,2	Net price
-- Schedule	0..n			Schedules
-- Quantity	1	D	8	Available quantity
-- DateStamp	1	D	10	Schedule date
-- BundleComponents	0..n			Bundle components
-- Line	1	D	10	Line number
-- ComponentMaterialNumber	1	D	8	Component material number
-- ComponentPrice	1	N	10,2	Component price
-- ScalePrices	0..n			Scale price
-- Quantity	1	D	10	Quantity
-- ScalePrice	1	N	10,2	Net price related to quantity

4.1.5 Message example – Response

```
<?xml version="1.0" encoding="UTF-8" ?>
<SOAP-ENV:Envelope [f ]>
  <SOAP-ENV:Body>
    <ser-root:[f ]>
      <LineItemResults [f ]>
        <item xsi:type="sc1:__LineItemResults" id="id2">
          <LineNumber xsi:type="xsd:string">100</LineNumber>
          <MaterialNumber xsi:type="xsd:string">1001114</MaterialNumber>
          <MonetaryAmount xsi:type="xsd:string">21.03</MonetaryAmount>
          <Schedule xsi:type="SOAP-ENC:Array" SOAP-ENC:arrayType="sc1:__Schedule[1]" id="id3">
            <item xsi:type="sc1:__Schedule" id="id4">
              <Quantity xsi:type="xsd:string">+100</Quantity>
              <DateStamp xsi:type="xsd:string">20100810</DateStamp>
            </item>
          </Schedule>
        </item>
      </LineItemResults>
    </ser-root:checkPriceAvailabilityResponse>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```