



Bindings for ~~e~~OBIX: SOAP Bindings Version 1.0

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Additional artifacts:

This prose specification is one component of a Work Product ~~which~~that also includes:

- WSDL files: <http://docs.oasis-open.org/obix/obix-soap/v1.0/csprd02/wSDL/>

Related work:

This specification is related to:

- ~~eOBIX Version 1.1. 11 July 2013. OASIS Committee Specification Draft 01 / Public Review Draft 01. Edited by Craig Gemmill. Latest version. <http://docs.oasis-open.org/obix/obix/v1.1/obix-v1.1.html>.~~
- ~~Bindings for OBIX: REST Bindings Version 1.0. Edited by Craig Gemmill and Markus Jung. Latest version. <http://docs.oasis-open.org/obix/obix-rest/v1.0/obix-rest-v1.0.html>.~~
- ~~Bindings for OBIX: WebSocket Bindings Version 1.0. Edited by Matthias Hub. Latest version. <http://docs.oasis-open.org/obix/obix-websocket/v1.0/obix-websocket-v1.0.html>.~~
- ~~Encodings for eOBIX: Common Encodings Version 1.0. 11 July 2013. OASIS Committee Specification Draft 01 / Public Review Draft 01.~~

- ~~*Bindings for oBIX: REST Bindings Version 1.0. 11 July 2013. OASIS Committee Specification Draft 01 / Public Review Draft 01. Edited by Marcus Jung. Latest version. <http://docs.oasis-open.org/obix/obix-encodings/v1.0/obix-encodings-v1.0.html>.*~~

Abstract:

~~This document specifies SOAP protocol bindings for oBIX. oBIX provides the core information model and interaction pattern for communication with building control systems. Specific implementations of oBIX must choose how to bind oBIX interactions. This document describes the SOAP Binding and includes a WSDL artifact OBIX.~~

Status:

This document was last revised or approved by the OASIS Open Building Information Exchange (oBIX) TC on the above date. The level of approval is also listed above. Check the "Latest version" location noted above for possible later revisions of this document.

Technical Committee members should send comments on this specification to the Technical Committee's email list. Others should send comments to the Technical Committee by using the "Send A Comment" button on the Technical Committee's web page at <http://www.oasis-open.org/committees/obix/>.

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[eOBIX-SOAP]

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1 Introduction

This document specifies the SOAP protocol bindings for **eOBIX**.

1.1 Terminology

The key words “MUST”, “MUST NOT”, “REQUIRED”, “SHALL”, “SHALL NOT”, “SHOULD”, “SHOULD NOT”, “RECOMMENDED”, “MAY”, and “OPTIONAL” in this document are to be interpreted as described in [RFC2119](#).

1.2 Normative References

- RFC2119** Bradner, S., “Key words for use in RFCs to Indicate Requirement Levels”, BCP 14, RFC 2119, March 1997. <http://www.ietf.org/rfc/rfc2119.txt>.
- ~~**eOBIX**~~ ~~[eOBIX](http://docs.oasis-open.org/obix/obix/v1.1/obix-v1.1.html)~~ ~~[OBIX](http://docs.oasis-open.org/obix/obix/v1.1/obix-v1.1.html)~~ ~~*Version 1.1. Edited by Craig Gemmill. Latest version.*~~ ~~<http://docs.oasis-open.org/obix/obix/v1.1/obix-v1.1.html>~~
~~See link in "Related work" section on cover page.~~
- eOBIX REST** *Bindings for OBIX: REST Bindings Version 1.0. Edited by Craig Gemmill and Markus Jung. Latest version.* <http://docs.oasis-open.org/obix/obix-rest/v1.0/obix-rest-v1.0.html>
~~See link in "Related work" section on cover page.~~
- WS-I** R. Chumbley, J. Durand, G. Pilz, T. Rutt, Basic Profile Version 2.0, Web Services Interoperability Organization, 09 November 2010
- ~~**SOAP**~~ ~~[M Gudgin, M Hadley, N Mendelsohn, J Moreau, H Nielsen, A Karmarkar, Y Lafon, W3C SOAP Version 1.2 \(Second Edition\), W3C Recommendation 27 April 2007](#)~~

1.3 Non-Normative References

- ~~**SOAP**~~ ~~[M Gudgin, M Hadley, N Mendelsohn, J Moreau, H Nielsen, A Karmarkar, Y Lafon, W3C SOAP Version 1.2 \(Second Edition\), W3C Recommendation 27 April 2007](#)~~

28 2 SOAP Binding

29 The SOAP binding maps a SOAP operation to each of the three eOBIX request types: read, write and
30 invoke. Like the HTTP binding, read is supported by every object, write is supported by objects whose
31 writable attribute is true, and invoke is only supported by operations. Inputs and outputs of each
32 request are specific to the target object.

33 Unlike the HTTP binding, requests are not accessed via the URI of the target object, but instead via the
34 URI of the SOAP server with the object's URI encoded into the body of the SOAP envelope.

35 2.1 SOAP Example

36 The following is a SOAP request to an eOBIX server's About object:

```
37 <env:Envelope xmlns:env="http://schemas.xmlsoap.org/soap/envelope/">  
38 <env:Body>  
39 <obixWS:read xmlns:obixWS=" http://obixdocs.oasis-open.org/obix/ns/201312/wsd1/1.1"  
40 xmlns="http://obixdocs.oasis-open.org/obix/ns/201312/schema/1.1"  
41 href="http://localhost/obix/about" />  
42 </env:Body>  
43 </env:Envelope>
```

44 An example response to the above request:

```
45 <env:Envelope xmlns:env="http://schemas.xmlsoap.org/soap/envelope/">  
46 <env:Body>  
47 <obixWS:response xmlns:obixWS=" http://obixdocs.oasis-  
48 open.org/obix/ns/wsd1-1201312/wsd1"  
49 xmlns="http://obixdocs.oasis-open.org/obix/ns/201312/schema/1.1">  
50 <obj name="about"  
51 href="http://localhost/obix/about/">  
52 <str name="obixVersion" val="1.1"/>  
53 <str name="serverName" val="obix"/>  
54 <abstime name="serverTime" val="2006-02-08T09:40:55.000+05:00:00Z"/>  
55 <abstime name="serverBootTime" val="2006-02-08T09:33:31.980+05:00:00Z"/>  
56 <str name="vendorName" val="Acme, Inc."/>  
57 <uri name="vendorUrl" val="http://www.acme.com"/>  
58 <str name="productName" val="Acme eOBIX Server"/>  
59 <str name="productVersion" val="1.0.3"/>  
60 <uri name="productUrl" val="http://www.acme.com/obix"/>  
61 </obj>  
62 </obixWS:response>  
63 </env:Body>  
64 </env:Envelope>
```

65 2.2 Error Handling

66 The eOBIX specification defines no SOAP faults. If a request is processed by an eOBIX server, then a
67 valid eOBIX document SHOULD be returned with a failure indicated via the err object.

68 2.3 Security

69 Refer to the recommendations in WS-I Basic Profile 2.0 for security [WS-I].

70 2.4 Localization

71 SOAP bindings SHOULD follow localization patterns defined for the HTTP binding when applicable (see
72 Section [eOBIX REST]).

73 2.5 WSDL

74 In the types section of the WSDL document, the **eOBIX** schema is imported. Server implementations
75 might consider providing the `schemaLocation` attribute which is absent in the standard document.

76 ~~Missing from the standard eOBIX WSDL is the service element. This element binds a SOAP server~~
77 ~~instance with a network address.~~ Each instance will have to provide its own services section of the WSDL
78 document. The following is an example of the WSDL service element:

```
79 <wsdl:service name="obix">  
80 <wsdl:port name="obixPort" binding="tns:obixSoapBinding">  
81 <soap:address location="http://localhost/obix/soap"/>  
82 </wsdl:port>  
83 </wsdl:service>
```

84 Standard **eOBIX** WSDL is:

```
85 <wsdl:definitions targetNamespace="http://obixdocs.oasis-  
86 open.org/obix/ns/201312/wsdl/1.1"  
87 xmlns="http://obixdocs.oasis-open.org/obix/ns/201312/wsdl/1.1"  
88 xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/"  
89 xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"  
90 xmlns:xsd="http://www.w3.org/2001/XMLSchema"  
91 xmlns:obix="http://obixdocs.oasis-open.org/obix/ns/schema/1.1/201312/wsdl">  
92 <wsdl:types>  
93 <xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"  
94 <del><!-- xmlns:obix="http://obix.org/ns/schema/1.1" elementFormDefault="qualified" -->  
95 <del><!-- xmlns:obixWS="http://obix.org/ns/wsdl/1.1" targetNamespace="http://obixdocs.oasis-  
96 open.org/obix/ns/201312/wsdl/1.1"  
97 xmlns="http://obixdocs.oasis-open.org/obix/ns/201312/wsdl/1.1">  
98 <xsd:import namespace="http://obixdocs.oasis-open.org/obix/ns/201312/schema/1.1"  
99 schemaLocation="obix.xsd" />  
100 <xsd:complexType name="ReadReq">  
101 <xsd:attribute name="href" type="xsd:anyURI" />  
102 </xsd:complexType>  
103 <xsd:complexType name="WriteReq">  
104 <xsd:complexContent>  
105 <xsd:extension base="ReadReq">  
106 <xsd:group ref="obix:objGroup" /><sequence>  
107 <xsd:element ref="obix:obj" maxOccurs="1"  
108 minOccurs="1" />  
109 </xsd:sequence>  
110 </xsd:extension>  
111 </xsd:complexContent>  
112 </xsd:complexType>  
113 <xsd:complexType name="InvokeReq">  
114 <xsd:complexContent>  
115 <xsd:extension base="ReadReq">  
116 <xsd:groupsequence>  
117 <xsd:element ref="obix:objGroup" /><obj" maxOccurs="1"  
118 minOccurs="1" />  
119 </xsd:sequence>  
120 </xsd:extension>  
121 </xsd:complexContent>  
122 </xsd:complexType>  
123  
124 <xsd:complexType name="ResponseType">  
125 <xsd:group ref="obix:objGroup" minOccurs="1"  
126 maxOccurs="1" />  
127 </xsd:complexType>  
128  
129 <xsd:element name="read" type="obixWS:ReadReq" />  
130 <xsd:element name="response" type="obixWS:ResponseType" />  
131 <xsd:element name="write" type="obixWS:WriteReq" />  
132 <xsd:element name="invoke" type="obixWS:InvokeReq" />  
133 </xsd:schema>  
134 </wsdl:types>  
135 <wsdl:message name="readSoapReq">  
136 <wsdl:part name="body" element="read" />  
137 </wsdl:message>  
138 <wsdl:message name="readSoapRes">  
139 <wsdl:part name="body" element="responseobix:obj" />  
140 </wsdl:message>
```

```

141 <wsdl:message name="writeSoapReq">
142   <wsdl:part name="body" element="write" />
143 </wsdl:message>
144 <wsdl:message name="writeSoapRes">
145   <wsdl:part name="body" element="responseobix:obj" />
146 </wsdl:message>
147 <wsdl:message name="invokeSoapReq">
148   <wsdl:part name="body" element="invoke" />
149 </wsdl:message>
150 <wsdl:message name="invokeSoapRes">
151   <wsdl:part name="body" element="responseobix:obj" />
152 </wsdl:message>
153 <wsdl:portType name="eOBIXSoapPort">
154   <wsdl:operation name="read">
155     <wsdl:input message="readSoapReq" />
156     <wsdl:output message="readSoapRes" />
157   </wsdl:operation>
158   <wsdl:operation name="write">
159     <wsdl:input message="writeSoapReq" />
160     <wsdl:output message="writeSoapRes" />
161   </wsdl:operation>
162   <wsdl:operation name="invoke">
163     <wsdl:input message="invokeSoapReq" />
164     <wsdl:output message="invokeSoapRes" />
165   </wsdl:operation>
166 </wsdl:portType>
167 <wsdl:binding name="eOBIXSoapBinding" type="eOBIXSoapPort">
168   <soap:binding style="document"
169     transport="http://schemas.xmlsoap.org/soap/http" />
170   <wsdl:operation name="read">
171     <soap:operation soapAction="http://obi:docs.oasis-
172 open.org/obix/ns/201312/wsdl/1.1/read"
173     style="document" />
174     <wsdl:input>
175       <soap:body use="literal" />
176     </wsdl:input>
177     <wsdl:output>
178       <soap:body use="literal" />
179     </wsdl:output>
180   </wsdl:operation>
181   <wsdl:operation name="write">
182     <soap:operation soapAction="http://obi:docs.oasis-
183 open.org/obix/ns/201312/wsdl/1.1/write"
184     style="document" />
185     <wsdl:input>
186       <soap:body use="literal" />
187     </wsdl:input>
188     <wsdl:output>
189       <soap:body use="literal" />
190     </wsdl:output>
191   </wsdl:operation>
192   <wsdl:operation name="invoke">
193     <soap:operation soapAction="http://obi:docs.oasis-
194 open.org/obix/ns/201312/wsdl/1.1/invoke"
195     style="document" />
196     <wsdl:input>
197       <soap:body use="literal" />
198     </wsdl:input>
199     <wsdl:output>
200       <soap:body use="literal" />
201     </wsdl:output>
202   </wsdl:operation>
203 </wsdl:binding>
204
205 <wsdl:service name="obix">
206   <wsdl:port name="obixPort" binding="OBIXSoapBinding">
207     <soap:address location="http://localhost/soap" />
208   </wsdl:port>
209 </wsdl:service>
210 </wsdl:definitions>

```

211 **3 Conformance**

212 An implementation is compliant with this specification if it implements all MUST or REQUIRED level
213 requirements.

214 Appendix A. Acknowledgments

215 The following individuals have participated in the creation of this specification and are gratefully
216 acknowledged:

217 Participants:

218 Ron Ambrosio, IBM
219 Brad Benson, Trane
220 Ron Bernstein, LonMark International*
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252

253

Appendix B. Revision History

254

Revision	Date	Editor	Changes Made
wd01	18 Mar 2013	Markus Jung	Initial creation, WSDL modifications, SOAP
wd02	26 Mar 2013	Markus Jung	Reverted changes to the state of eOBIX 1.1 WD07.
wd03	13 Jun 2013	Markus Jung	Formatting changes
wd04	28 Jun 2013	Markus Jung	Modified WSDL to work with the eOBIX 1.1 XML schema. Introduced wrapping response type and element.
WD05	8 Jul 2013	Toby Considine	Minor formatting and before PR
wd06	7 Nov 2013	Markus Jung	Incorporating PR review comments
wd07	5 Dec 2013	Markus Jung	Fixed namespaces
wd08	16 Dec 2013	Markus Jung	Updated namespaces, Uppercase writing of OBIX
wd09	16 Dec 2013	Markus Jung	Minor fixes: OBIX-83, OBIX-84

255

256