Web Services Description Language (WSDL) Version 1.2 Part 2: Message Patterns

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Abstract

This document describes Web Services Description Language (WSDL) Version 1.2 message patterns. These patterns are intended for use with the Web Services Description Language (WSDL).

Status of this Document

This section describes the status of this document at the time of its publication. Other documents may supersede this document. The latest status of this document series is maintained at the W3C.

This is the first W3C Working Draft of the WSDL Version 1.2 Message Patterns specification for review by W3C members and other interested parties.

This document has been produced as part of the W3C Web Services Activity. The authors of this document are the Web Services Description Working Group members.

This is a draft document and may be updated, replaced or obsoleted by other documents at any time. It is inappropriate to use W3C Working Drafts as reference material or to cite them as other than "work in progress". This is work in progress and does not imply endorsement by, or the consensus of, either W3C or members of the Web Services Description Working Group.

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Patent disclosures relevant to this specification may be found on the Working Group's patent disclosure page.

A list of current W3C Recommendations and other technical documents can be found at http://www.w3.org/TR.

Short Table of Contents

1. Introduction [p.3]
2. Message Patterns [p.3]
3. References [p.6]
A. Acknowledgements [p.6] (Non-Normative)
B. Change Log [p.7] (Non-Normative)

Table of Contents

1. Introduction [p.3]
   1.1 Notational Conventions [p.3]
2. Message Patterns [p.3]
   2.1 In-Only [p.3]
   2.2 In-Out [p.4]
   2.3 Request-Response [p.4]
   2.4 In-Multi-Out [p.4]
   2.5 Out-Only [p.4]
   2.6 Out-In [p.5]
   2.7 Out-Multi-In [p.5]
   2.8 Multicast-Solicit-Response [p.5]
3. References [p.6]
   3.1 Normative References [p.6]
   3.2 Informative References [p.6]

Appendices

A. Acknowledgements [p.6] (Non-Normative)
B. Change Log [p.7] (Non-Normative)
   B.1 Changes [p.7]

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1. Introduction

Web Services Description Language (WSDL) message patterns define the sequence, direction, and cardinality of abstract messages sent or received by an operation.

By design, WSDL message patterns abstract out specific message types; placeholders for messages identified by the pattern are associated with specific message types by the operation using the pattern.

Unless explicitly stated otherwise, WSDL message patterns also abstract out binding-specific information like timing between messages, whether the pattern is synchronous or asynchronous, and whether the message are sent over a single or multiple channels.

This specification defines several message patterns for use with *WSDL Version 1.2 Part 1: Core Language* [*WSDL 1.2 Core Language [p.6]*].

1.1 Notational Conventions

The keywords "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in RFC 2119 [*IETF RFC 2119 [p.6]*].

2. Message Patterns

WSDL patterns are described in terms of the WSDL component model, specifically the message reference and fault reference components.

Editorial note: Pattern Review	5 March 2003
The working group plans to review the message patterns herein and eliminate those that are have not demonstrated to be useful (for example, supported by a binding with two interoperable implementations).	

2.1 In-Only

This pattern consists of exactly one message as follows:

- A message indicated by a message reference whose {name} is ’A’ and {direction} is ’in’.

An operation using this message pattern has a {pattern} property with the value ’http://www.w3.org/2003/06/wsdl/in-only’.

2.2 In-Out

This pattern consists of exactly two messages, in order, as follows:

- A message indicated by a message reference whose {name} is 'A' and {direction} is 'in'.
- One of the following:
  - A message indicated by a message reference whose {name} is 'B' and {direction} is 'out', or
  - A message indicated by a fault reference whose {name} is 'C' and {direction} is 'out'.

An operation using this message pattern has a {pattern} property with the value 'http://www.w3.org/2003/06/wsdl/in-out'.

2.3 Request-Response

This pattern is identical to In-Out [p.4] with the following exception:

- Any message with {direction} 'out' is sent on the same channel as the message with {direction} 'in'.

An operation using this message pattern has a {pattern} property with the value 'http://www.w3.org/2003/06/wsdl/request-response'.

2.4 In-Multi-Out

This pattern consists of one or more messages, in order, as follows:

- A message indicated by a message reference whose {name} is 'A' and {direction} is 'in'.
- Zero or more messages indicated by a message reference whose {name} is 'B' and {direction} is 'out'.
- An optional message indicated by a fault reference whose {name} is 'C' and {direction} is 'out'.

An operation using this message pattern has a {pattern} property with the value 'http://www.w3.org/2003/06/wsdl/in-multi-out'.

2.5 Out-Only

This pattern consists of exactly one message as follows:

- A message indicated by a message reference whose {name} is 'A' and {direction} is 'out'.

An operation using this message pattern has a {pattern} property with the value 'http://www.w3.org/2003/06/wsdl/out-only'.

2.6 Out-In

This pattern consists of exactly two messages, in order, as follows:

- A message indicated by a message reference whose {name} is 'A' and {direction} is 'out'.
- One of the following:
    - A message indicated by a message reference whose {name} is 'B' and {direction} is 'in', or
    - A message indicated by a fault reference whose {name} is 'C' and {direction} is 'in'.

An operation using this message pattern has a {pattern} property with the value 'http://www.w3.org/2003/06/wsdl/out-in'.

2.7 Out-Multi-In

This pattern consists of one or more messages, in order, as follows:

- A message indicated by a message reference whose {name} is 'A' and {direction} is 'out'.
- Zero or more messages indicated by a message reference whose {name} is 'B' and {direction} is 'in'.
- An optional message indicated by a fault reference whose {name} is 'C' and {direction} is 'in'.

An operation using this message pattern has a {pattern} property with the value 'http://www.w3.org/2003/06/wsdl/out-multi-in'.

2.8 Multicast-Solicit-Response

This pattern consists of one or more messages, in sequence as follows:

- A message indicated by a message reference whose {name} is 'A' and {direction} is 'out',
- Zero or more messages, each of which is in one of the following sequences:
    - One or two messages, in sequence as follows:
        - A message indicated by a message reference whose {name} is 'B' and {direction} is 'in',
        - A message indicated by a fault reference whose {name} is 'D' and {direction} is 'out'.
    - A message indicated by a fault reference whose {name} is 'C' and {direction} is 'in'.

An operation using this message pattern has a {pattern} property with the value 'http://www.w3.org/2003/06/wsdl/multicast-solicit-response'.

3. References

3.1 Normative References

[IETF RFC 2119]
Key words for use in RFCs to Indicate Requirement Levels, S. Bradner, Author. Internet Engineering Task Force, June 1999. Available at http://www.ietf.org/rfc/rfc2119.txt.

[WSDL 1.2 Core Language]
Web Services Description (WSDL) Version 1.2 Part 1: Core Language, R.Chinnici, M.Gudgin, J-J. Moreau, S.Weerawarana Editors. World Wide Web Consortium, 11 June 2003. This version of the "Web Services Description Version 1.2 Part 1: Core Language" Specification is available is available at http://www.w3.org/TR/2003/WD-wsdl12-20030611. The latest version of "Web Services Description Version 1.2 Part 1: Core Language" is available at http://www.w3.org/TR/wsdl12.

3.2 Informative References

[WSD Requirements]
Web Services Description Requirements, J. Schlimmer, Editor. World Wide Web Consortium, 28 October 2002. This version of the Web Services Description Requirements document is http://www.w3.org/TR/2002/WD-ws-desc-reqs-20021028. The latest version of Web Services Description Requirements is available at http://www.w3.org/TR/ws-desc-reqs.

A. Acknowledgements (Non-Normative)

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B. Change Log (Non-Normative)

B.1 Changes

Date	Author	Description
20030313	MJG	Changed to Part 2 (from Part 3)
20030306	JCS	Proposed name for MEP7.
20030305	JCS	Per 4 Mar 03 meeting, renamed ’message exchange pattern’ to ’message pattern’ or ’pattern’, added pattern for request-response, added ednote about review of patterns.
20030217	MJG	Fixed some issues with entities and validity errors WRT ulists
20030212	JCS	Initial draft