W3C Working Draft

Web Services Description Requirements

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Abstract

This document describes the Web Services Description Working Group's requirements for the Web Services Description specification.

Status of this Document

This is a W3C Last Call Working Draft of the Web Services Description Requirements document. It is a chartered deliverable of the Web Services Description Working Group (WG), which is part of the Web Services Activity. This document represents the current consensus within the Working Group about Web Services Description requirements. The Working Group does not intend to take this document further than Last Call, except to update this document in response to comments and requests from other Working Groups and the public.

The Last Call review period ends on 31 December 2002. Comments on this document should be sent to public-ws-desc-comments@w3.org (public archive). It is inappropriate to send discussion emails to this address.

Discussion of this document takes place on the public www-ws-desc@w3.org mailing list (public archive) per the email communication rules in the Web Services Description Working Group Charter.

disclosure page.

This is a public W3C Working Draft. It 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". A list of all W3C technical reports can be found at http://www.w3.org/TR.

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Appendices

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1 Notations

The following terminology and typographical conventions have been used in this document.

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted in a manner similar to that described in [IETF RFC 2119]. (Changes from [IETF RFC 2119] are indicated with *emphasis*.)

MUST, REQUIRED, SHALL

address this requirement.

SHOULD, RECOMMENDED

There may exist valid reasons *for the WG* to ignore *this requirement*, but the implications *of doing so* must be understood and weighed before doing so.

MAY, OPTIONAL

The *requirement* is truly optional. *The WG* may choose to omit the *requirement for the sake of scope or schedule*.

For the sake of process and clarity, each requirement is annotated with meta data.

- Each requirement has an identification number. The numbers are arbitrary and do not imply any ordering or significance.
- Draft requirements are annotated to indicate their review status within the WG:

  [Draft]

  A candidate requirement the WG is actively considering but has *not* yet reached consensus on.

- To indicate their source, requirements may be annotated with the initials of the original submitter, 'Charter' (from [WSD Charter]), or 'WG' (from WG discussion).

2 Definitions

The definitions in this section are drawn primarily from [WSDL 1.1] and are intended to be used for purposes of discussion. They are not intended to constrain the results of the WG.

2.1 Non-normative definitions

Web Service

[Definition: A **Web Service** is a software application identified by a URI [IETF RFC 2396], whose interfaces and binding are capable of being defined, described and discovered by XML artifacts and supports direct interactions with other software applications using XML based messages via Internet-based protocols.]

Client

[Definition: A **Client** is a software that makes use of a Web Service, acting as its 'user' or 'customer'.]

2.2 Normative definitions

Message

[Definition: A **Message** is the basic unit of communication between a Web Service and a Client; data to be communicated to or from a Web Service as a single logical transmission.]

[Definition: A sequence of Messages related to a single Web Service action is called an **Operation**.]

Interface (AKA Port Type)

[Definition: A logical grouping of operations. An **Interface** represents an abstract Web Service type, independent of transmission protocol and data format.]

InterfaceBinding

[Definition: An association between an Interface, a concrete protocol and/or a data format. An **InterfaceBinding** specifies the protocol and/or data format to be used in transmitting Messages defined by the associated Interface.]

EndPoint (AKA Port)

[Definition: An association between a fully-specified InterfaceBinding and a network address, specified by a URI [IETF RFC 2396], that may be used to communicate with an instance of a Web Service. An **EndPoint** indicates a specific location for accessing a Web Service using a specific protocol and data format.]

Service

[Definition: A collection of EndPoints is called **Service**.]

3 Relationship to WG Charter

The Web Services Description WG Charter [WSD Charter] has two sections describing what is in-scope and what is out-of-scope of the problem space defined for the WG. The WG considers all the requirements in Section 1 of [WSD Charter] to be in-scope per the Charter.

Reviewers and readers should be familiar with the Web Services Description WG Charter [WSD Charter] because it provides the critical context for the requirements and any discussion of them.

4 Requirements

4.1 General

R001

The description language MUST allow any programming model, transport, or protocol for communication between peers. (From the Charter. Last revised 23 Apr 2002.)

R004

The WG specification(s) MUST describe constructs using the [XML Information Set] model (similar to the SOAP 1.2 specifications [SOAP 1.2 Part 1]). (From JS. Last revised 21 Feb 2002.)

R099

Processors of the description language MUST support XML Schema (http://www.w3.org/2001/XMLSchema). See also [XML Schema Part 1]. (From WG discussion. Last discussed 21 Feb 2002.)

R100

The description language MUST allow other type systems besides XML Schema (http://www.w3.org/2001/XMLSchema) via extensibility. (From WG discussion. Last discussed 21 Feb 2002.)

R098

The WG specification(s) schema and examples MUST be written in XML Schema and SHOULD be written in the latest public W3C XML Schema Recommendation. (From WG discussion. Last revised 28 Feb 2002.)

R005

The WG specification(s) MUST correct errors/inconsistencies in [WSDL 1.1]. (From KL. Last revised 10 Apr 2002.)

R007

The WG specification(s) MUST provide detailed examples, including on-the-wire messages. (From KL. Last revised 10 Apr 2002.)

R003

The WG specification(s) SHOULD use available XML technologies. (From JS. Last revised 10 Apr 2002.)

R105

The WG specification(s) SHOULD support Web Services that operate on resource constrained devices. (From YF. Last discussed 10 Apr 2002.)

R010

The WG specification(s) SHOULD use consistent terminology across all sections of the specification(s). (From KL. Last revised 10 Apr 2002.)

R124

The WG MUST register a MIME type for WSDL (perhaps application/wsdl+xml). (From WG discussion. Last revised 27 Jun 2002.)

4.2 Simplicity

R013

The WG specification(s) MUST be simple to understand and implement correctly. The description language MUST be simple to use. (From the Charter. Last discussed 7 Mar

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