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Information technology — Document Schema Definition Language (DSDL) —

Part 2: Regular-grammar-based validation — RELAX NG

Technologies de l'information — Langage de définition de schéma de documents (DSDL) —

Partie 2: Validation de grammaire orientée courante — RELAX NG

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 19757-2 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 34, *Document description and processing languages*.

ISO/IEC 19757 consists of the following parts, under the general title *Information technology — Document Schema Definition Language (DSDL)*:

— *Part 2: Regular-grammar-based validation — RELAX NG*

The following parts are under preparation.

— *Part 1: Overview*

— *Part 4: Selection of validation candidates*

Rule-based validation — Schematron, Datatypes, Path-based integrity constraints, Character repertoire validation, Declarative document manipulation, Datatype- and namespace-aware DTDs and Interoperability framework will form the subjects of future Parts 3, 5, 6, 7, 8, 9 and 10, respectively.

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Introduction

The structure of this part of ISO/IEC 19757 is as follows. Clause 5 describes the data model, which is the abstraction of an XML document used throughout the rest of the document. Clause 6 describes the syntax of a RELAX NG schema. Clause 7 describes a sequence of transformations that are applied to simplify a RELAX NG schema, and also specifies additional requirements on a RELAX NG schema. Clause 8 describes the syntax that results from applying the transformations; this simple syntax is a subset of the full syntax. Clause 9 describes the semantics of a correct RELAX NG schema that uses the simple syntax; the semantics specify when an element is valid with respect to a RELAX NG schema. Clause 10 describes requirements that apply to a RELAX NG schema after it has been transformed into simple form. Finally, Clause 11 describes conformance requirements for RELAX NG validators.

This part of ISO/IEC 19757 is based on the RELAX NG Specification[1]. A tutorial for RELAX NG is available separately (see the RELAX NG Tutorial[2]).

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Information technology — Document Schema Definition Language (DSDL) —

Part 2: Regular-grammar-based validation — RELAX NG

1 Scope

This part of ISO/IEC 19757 specifies RELAX NG, a schema language for XML. A RELAX NG schema specifies a pattern for the structure and content of an XML document. The pattern is specified by using a regular tree grammar. This part of ISO/IEC 19757 establishes requirements for RELAX NG schemas and specifies when an XML document matches the pattern specified by a RELAX NG schema.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE Each of the following documents has a unique identifier that is used to cite the document in the text. The unique identifier consists of the part of the reference up to the first comma.

W3C XML, *Extensible Markup Language (XML) 1.0 (Second Edition)*, W3C Recommendation, 6 October 2000, available at <http://www.w3.org/TR/2000/REC-xml-20001006>

W3C XML-Names, *Namespaces in XML*, W3C Recommendation, 14 January 1999, available at <http://www.w3.org/TR/1999/REC-xml-names-19990114/>

W3C XLink, *XML Linking Language (XLink) Version 1.0*, W3C Recommendation, 27 June 2001, available at <http://www.w3.org/TR/2001/REC-xlink-20010627/>

W3C XML-Infoset, *XML Information Set*, W3C Recommendation, 24 October 2001, available at <http://www.w3.org/TR/2001/REC-xml-infoset-20011024/>

IETF RFC 2045, *Multipurpose Internet Mail Extensions (MIME) Part One: Format of Internet Message Bodies*, Internet Standards Track Specification, November 1996, available at <http://www.ietf.org/rfc/rfc2045.txt>

IETF RFC 2046, *Multipurpose Internet Mail Extensions (MIME) Part Two: Media Types*, Internet Standards Track Specification, November 1996, available at <http://www.ietf.org/rfc/rfc2046.txt>

IETF RFC 2396, *Uniform Resource Identifiers (URI): Generic Syntax*, Internet Standards Track Specification, August 1998, available at <http://www.ietf.org/rfc/rfc2396.txt>

IETF RFC 2732, *Format for Literal IPv6 Addresses in URL's*, Internet Standards Track Specification, December 1999, available at <http://www.ietf.org/rfc/rfc2732.txt>

IETF RFC 3023, *XML Media Types*, Internet Standards Track Specification, August 1998, available at <http://www.ietf.org/rfc/rfc3023.txt>

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