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Information technology — Document Schema Definition Languages (DSDL) —

Part 4: Namespace-based Validation Dispatching Language (NVDL)

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

Partie 4: Langage de diffusion de validation d'espace de nom orienté (NVDL)

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Contents

Page

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 19757-4 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 Languages (DSDL)*:

— *Part 1: Overview*

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

— *Part 3: Rule-based validation — Schematron*

— *Part 4: Namespace-based Validation Dispatching Language (NVDL)*

The following parts are under preparation:

— *Part 5: Datatypes*

— *Part 6: Path-based integrity constraints*

— *Part 7: Character repertoire description language — CRDL*

— *Part 8: Document schema renaming language — DSRL*

— *Part 9: Datatype- and namespace-aware DTDs*

— *Part 10: Validation management*

Introduction

ISO/IEC 19757 defines a set of Document Schema Definition Languages (DSDL) that can be used to specify one or more validation processes performed against Extensible Markup Language (XML) documents. A number of validation technologies are standardized in DSDL to complement those already available as standards or from industry.

The main objective of ISO/IEC 19757 is to bring together different validation-related technologies to form a single extensible framework that allows technologies to work in series or in parallel to produce a single or a set of validation results. The extensibility of DSDL accommodates validation technologies not yet designed or specified.

The motivations of this part of ISO/IEC 19757 are twofold. One is to allow the interworking of schemas describing different markup vocabularies. The other is to allow these schemas to be written in different schema languages. For this purpose, this part of ISO/IEC 19757 specifies a Namespace-based Validation Dispatching Language (NVDL).

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 full syntax and the simple syntax of NVDL scripts, and further describes the transformation from the full syntax to the simple syntax. Clause 7 describes primitive operations for the NVDL data model, which are used for defining the NVDL semantics. Clause 8 describes the semantics of a correct NVDL script in the simple syntax; the semantics specify how elements and attributes in a given document are dispatched to different validators and which schema is used by each of these validators. Clause 9 describes conformance requirements for NVDL dispatchers. Annex A and Annex B define the full syntax and the simple syntax using RELAX NG, respectively. Annex C defines the full syntax using NVDL and RELAX NG. Finally, Annex D provides examples of the application of NVDL.

The origin of NVDL is JIS TR X 0044[4], which was created and then submitted to ISO/IEC JTC1 as a fast-track ISO/IEC DTR 22250-2[5] by the Japanese national member body for SC 34.

Information technology — Document Schema Definition Languages (DSDL) —

Part 4:
Namespace-based Validation Dispatching Language (NVDL)

1 Scope

This part of ISO/IEC 19757 specifies a Namespace-based Validation Dispatching Language (NVDL). An NVDL script controls the dispatching of elements or attributes in a given XML document to different validators, depending on the namespaces of the elements or attributes. An NVDL script also specifies which schemas are used by these validators. These schemas may be written in any schema languages, including those specified by ISO/IEC 19757.

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.

ISO/IEC 19757-2, *Information technology — Document Schema Definition Languages (DSDL) — Part 2: Regular-grammar-based validation— RELAX NG*

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W3C XML-Infoset, *XML Information Set (Second Edition)*, W3C Recommendation, 4 February 2004, available at http://www.w3.org/TR/2004/REC-xml-infoset-20040204/

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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

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