
**Information technology — Document
Schema Definition Languages (DSDL) —**

**Part 5:
Extensible Datatypes**

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

Partie 5: Types de données extensibles



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Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Extensible Datatypes schema overview	2
5 Common constructs	3
5.1 Common types	3
5.2 Common attributes	4
5.3 Extension elements	4
5.4 Versioning and compatibility	5
6 Simplification	5
6.1 Include elements	5
6.2 Same-named datatypes	6
7 Document element	7
8 Top-level elements	7
8.1 div element	8
8.2 Top-level extension elements	8
9 Datatype definition	8
9.1 Named datatypes	8
9.2 Anonymous datatypes	8
9.3 Whitespace processing	9
9.4 Mechanisms for defining datatypes	9
Annex A (normative) RELAX NG schema for Extensible Datatypes documents	16
Bibliography	18

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.

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ISO/IEC 19757-5 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)*
- *Part 5: Extensible Datatypes*
- *Part 7: Character Repertoire Description Language (CREPDL)*
- *Part 8: Document Semantics Renaming Language (DSRL)*
- *Part 9: Namespace and datatype declaration in Document Type Definitions (DTDs)*
- *Part 11: Schema Association*

Introduction

This part of ISO/IEC 19757 specifies a powerful, XML-based language which enables users to create and extend their own libraries of datatypes using straightforward declarative XML constructs. Such libraries are well-suited to being used in pipelining validation processes in conjunction with other XML schema languages.

Unlike W3C Schema^[1], ISO/IEC 19757-2:2008 (RELAX NG) does not itself provide a declarative mechanism for users to define their own datatypes. If they are not satisfied with the two built-in types of `string` and `token`, RELAX NG users have had either to use a pre-written library bundled with their validator, or to program a datatype library using that validator's API. Such programmed datatype libraries are hard to construct for non-programmer users, and built-in datatype libraries are often insufficient for users' needs.

Information technology — Document Schema Definition Languages (DSDL) —

Part 5: Extensible Datatypes

1 Scope

This part of ISO/IEC 19757 specifies an XML language that allows users to create and extend datatype libraries for their own purposes. The datatype definitions in these libraries can be used by XML validators and other tools to validate content and make comparisons between values.

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.

IETF RFC 3023, *XML Media Types*, Internet Standards Track Specification, January 2001, <http://www.ietf.org/rfc/rfc3023.txt>

IETF RFC 3987, *Internationalized Resource Identifiers (IRIs)*, Internet Standards Track Specification, January 2005, <http://www.ietf.org/rfc/rfc3987.txt>

ISO/IEC 19757-2:2008, *Information technology — Document Schema Definition Language (DSDL) — Part 2: Regular-grammar-based validation — RELAX NG*

W3C XML, *Extensible Markup Language (XML) 1.0 (Fourth Edition)*, W3C Recommendation, 16 August 2006, edited in place 29 September 2006, <http://www.w3.org/TR/2006/REC-xml-20060816>

W3C XML Names, *Namespaces in XML 1.0 (Third Edition)*, W3C Recommendation, 8 December 2009, <http://www.w3.org/TR/2009/REC-xml-names-20091208/>

W3C XPath 2.0, *XML Path Language (XPath) 2.0*, W3C Recommendation, 23 January 2007, <http://www.w3.org/TR/2007/REC-xpath20-20070123/>

W3C XPath 2.0 Functions, *XQuery 1.0 and XPath 2.0 Functions and Operators*, W3C Recommendation, 23 January 2007, <http://www.w3.org/TR/2007/REC-xpath-functions-20070123/>

W3C XSLT 2.0, *XSL Transformations (XSLT) Version 2.0*, W3C Recommendation, 23 January 2007, <http://www.w3.org/TR/2007/REC-xslt20-20070123/>

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