OASIS 🕅

DocBook Version 5.1

OASIS Standard

22 November 2016

Specification URIs

This version:

http://docs.oasis-open.org/docbook/docbook/v5.1/os/docbook-v5.1-os.html (Authoritative) http://docs.oasis-open.org/docbook/docbook/v5.1/os/docbook-v5.1-os.pdf http://docs.oasis-open.org/docbook/docbook/v5.1/os/docbook-v5.1-os.xml

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This prose specification is one component of a Work Product that also includes:

- Schemas: http://docs.oasis-open.org/docbook/docbook/v5.1/os/schemas/
- DocBook V4.x conversion tools: http://docs.oasis-open.org/docbook/docbook/v5.1/os/tools/

Related Work:

This specification replaces or supersedes:

 The DocBook Schema Version 5.0. 1 November 2009. OASIS Standard. http://docs.oasisopen.org/docbook/specs/docbook-5.0-spec.html

Declared XML Namespaces:

http://docbook.org/ns/docbook

Citation format:

When referencing this specification, the following citation format should be used:

[DocBook-5.1]

DocBook Version 5.1. Edited by Norman Walsh. 22 November 2016. OASIS Standard. http://docs.oasisopen.org/docbook/docbook/v5.1/os/docbook-v5.1-os.html Atest version: http://docs.oasisopen.org/docbook/docbook/v5.1/docbook-v5.1.html.

Abstract:

DocBook is a general purpose [XML] schema particularly well suited to books and papers about computer hardware and software (though it is by no means limited to these applications).

The Version 5.1 release introduces assemblies for topic-oriented authoring. It also addresses a selection of bugs and feature requests.

The Technical Committee provides the DocBook 5.1 schema in other schema languages, including W3C XML Schema and an XML DTD, but the RELAX NG Schema is the normative schema.

Status:

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1 Introduction

1.1 Background

DocBook is general purpose [XML] schema particularly well suited to books and papers about computer hardware and software (though it is by no means limited to these applications).

The DocBook Technical Committee [https://www.oasis-open.org/committees/docbook/] maintains the DocBook schema. Starting with V5.0, DocBook is normatively available as a [RELAX NG] Schema (with some additional [Schematron] assertions). A non-normative [W3C XML Schema] version will be published when it is available. DocBook builds on existing XML technologies: it uses [XLink] for linking, [W3C XML Datatypes] for atomic data types, and anticipates the use of [XInclude] for transclusion.

Note

DocBook has been under active maintenance for more than 20 years, it began life as an [SGML] document type definition.

The Version 5.1 introduces assemblies for topic-oriented authoring and addresses a selection of bugs and feature requests.

The DocBook Technical Committee welcomes bug reports and requests for enhancement (RFEs) from the user community. Please send comments and requests for enhancement to the DocBook comments list, docbook-comment@lists.oasis-open.org [mailto:docbook-comment@lists.oasis-open.org] mailing list. Out-standing requests can be seen in the archives as well as in the issues tracker on Github [https://github.com/docbook/docbook/lissues] interface.

1.2 Terminology

The key words *must*, *must not*, *required*, *shall*, *shall not*, *should*, *should not*, *recommended*, *may*, and *optional* in this OASIS Standard are to be interpreted as described in [RFC 2119].

1.3 Normative References

- [XML] T. Bray, J. Paoli, M., E. Maler, F. Yergeau, Editors, *Extensible Markup (XML) 1.0 (Fifth Edition) [http://www.w3.org/TR/REC-xml/]*, W3C Recommendation, 26 November 2008.
- [XLink] Steven DeRose, Eve Maler, David Orchard, Norman Walsh, editors. XML Linking Language (XLink) Version 1.1 [http://www.w3.org/TR/xlink11/]. World Wide Web Consortium, 2005.
- [XInclude] Jonathan Marsh, David Orchard, Daniel Veillard, Norman Walsh, editors. XML Inclusions (XInclude) Version 1.0 (Second Edition) [http://www.w3.org/TR/xinclude/]. World Wide Web Consortium, 2006.
- [W3C XML Datatypes] Paul V. Biron and Ashok Malhotra, editors. XML Schema Part 2: Datatypes Second Edition [http://www.w3.org/TR/xmlschema-2/]. World Wide Web Consortium, 2004.
- [ITS] David Filip, Shaun McCance, Dave Lewis, et. al., editors. *International Tag Set (ITS) 2.0 [http://www.w3.org/TR/its20/]*. World Wide Web Consortium, 2013.
- [RELAX NG] ISO/IEC 19757-2:2008 Information Technology—Document Schema Definition Language (DSDL)—Part 2: Regular-grammar-based validation—RELAX NG [http://www.iso.org/iso/home/

store/catalogue_tc/catalogue_detail.htm?csnumber=52348]. Publicly available at: http://standards.iso.org/ittf/PubliclyAvailableStandards/c052348_ISO_IEC_19757-2_2008(E).zip.

- [Schematron] ISO/IEC 19757-3:2006 Information Technology—Document Schema Definition Language (DSDL)—Part 3: Rule-based validation—Schematron [http://www.iso.org/iso/home/store/catalogue_tc/ catalogue_detail.htm?csnumber=40833] Publicly available at: http://standards.iso.org/ittf/PubliclyAvailableStandards/c040833_ISO_IEC_19757-3_2006(E).zip. .
- [RFC 2119] Bradner, S. "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997, *http://www.rfc-editor.org/info/rfc2119*.
- [RFC 7303] Thompson, H. and C. Lilley, "XML Media Types", RFC 7303, July 2014, http://www.rfc-editor.org/ info/rfc7303.
- [DocBook 5.1: TDG] Norman Walsh. DocBook 5.1: The Definitive Guide [http://docbook.org/tdg51/en/html/].

1.4 Non-Normative References

- [DocBook 5: TDG] Norman Walsh. DocBook 5.0: The Definitive Guide [http://shop.oreilly.com/product/ 9780596805012.do]. O'Reilly Media. April 2010.
- [SGML] JTC 1, SC 34. ISO 8879:1986 Information processing -- Text and office systems -- Standard Generalized Markup Language (SGML). 1986.
- [W3C XML Schema] Henry S. Thompson, David Beech, Murray Maloney, et. al., editors. XML Schema Part 1: Structures Second Edition [http://www.w3.org/TR/xmlschema-1/]. World Wide Web Consortium, 2004.

2 The DocBook RELAX NG Schema

2.1 Distribution

The DocBook RELAX NG Schema (and associated non-normative schemas and tools) are distributed with this specification. DocBook is also available from the mirror on http://docbook.org/.

This prose specification is one component of a Work Product that also includes:

- RELAX NG DocBook Schema accessible from http://docs.oasis-open.org/docbook/docbook/v5.1/os/schemas/rng/docbook.rnc
- RELAX NG DocBook Assembly Schema accessible from http://docs.oasis-open.org/docbook/docbook/v5.1/os/schemas/rng/assembly.rnc
- RELAX NG DocBook+ITS Schema accessible from http://docs.oasis-open.org/docbook/docbook/v5.1/os/schemas/rng/dbits.rnc
- RELAX NG DocBook+XInclude Schema accessible from http://docs.oasis-open.org/docbook/docbook/v5.1/os/schemas/rng/docbookxi.rnc
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- An NVDL Schema accessible from http://docs.oasis-open.org/docbook/docbook/v5.1/os/schemas/docbook.nvdl
- DocBook V4.x conversion tools accessible from http://docs.oasis-open.org/docbook/docbook/v5.1/os/tools/

3 Identifying DocBook Documents and Schemas

For systems that can make use of public identifiers, e.g., systems where the informative DTD is being used, the following public identifier *should* be used for DocBook V5.1: "-//OASIS//DTD DocBook V5.1//EN//XML".

Note

Historically, when DocBook was defined by a DTD, DocBook documents could be identified by the presence of standard public and/or system identifiers in the document type declaration. RELAX NG, the normative schema language for DocBook V5.0, does not provide any equivalent mechanism.

4 Conformance

This specification normatively defines DocBook V5.1 with a RELAX NG grammar and a set of Schematron assertions. A conformant DocBook V5.1 document *must* be valid according to both the grammar and the assertions.

DocBook documents are described by a set of schemas:

- "Plain" DocBook documents and DocBook Assembly documents. The schema for assembly documents is separate as a convenience for authors, it is conceptually part of the whole set of DocBook documents.
- DocBook + International Tag Set (ITS) Version 2.0; this schema allows authors to write valid DocBook documents that satisfy ITS Conformance Type 1 as defined in [ITS].
- DocBook + XInclude markup; this schema is not normative. It allows authors to write documents which mix DocBook markup and XInclude in many (but perhaps not all) reasonable places.

The schemas in question are those listed in Section 2.1, "Distribution".

The reference documentation (see [DocBook 5.1: TDG]) describes general processing expectations for each element and some of the circumstances in which they may or may not apply. Understanding and conforming to these processing expectations where practical is likely to improve interoperability.

Note

[**DocBook 5: TDG**], the reference documentation for DocBook V5.0, much of which still applies to DocBook V5.1, is also available in published form from *O'Reilly Media*.

5 Release Notes

See http://www.relaxng.org/ for a list of tools that can validate an XML document using RELAX NG. Note that not all products are capable of evaluating the Schematron assertions in the schema.

Appendix A Acknowledgements (Non-Normative)

The following individuals have participated in the creation of this specification and are gratefully acknowledged: Steve Cogorno, Gary Cornelius, Adam Di Carlo, Paul Grosso, Dick Hamilton (Secretary), Nancy Harrison, Scott Hudson, Mark Johnson, Gershon Joseph, Jirka Kosek, Larry Rowland, Michael Smith, Robert Stayton (Chair), Norman Walsh (Editor).

Appendix B Revision History (Non-Normative)

B.1 Changes in DocBook V5.1

DocBook V5.1 fixes a number of bugs, summarized below, and adds a significant new feature designed for the purpose of topic-based authoring: assemblies.

B.1.1 Assemblies

One modern school of thought on technical documentation stresses the development of independent units of documentation, often called topics, rather than a single narrative. Instead of writing something that DocBook users would easily recognize as a book consisting of a preface, several consecutive chapters, and a few appendixes, the author (or authors) write a set of discrete topics covering different aspects of the system as if they were wholly independent.

In a typical online presentation system, for example the world wide web or online help, each topic is a page that stands alone. Except, of course, that just as no man is an island, no topic is completely unrelated to the other topics that are available.

From any given topic, there may be topics of obviously related interest. The nature of the relationships may vary. Some topics are related by physical proximity (if you're interested in the ink cartridges in a printer, you may also be interested in the print head), others by their procedural nature (adding or replacing memory, adding or replacing a hard drive, or even changing the CPU are all topics that might logically follow a topic that describes how to open the computer case).

In a single narrative, it is the responsibility of the author to manage these relationships. He or she can reasonably assume that anyone reading chapter 4 has read chapters 1, 2, and 3. If the reader needs to be directed elsewhere, a cross reference can be used (for example, "for more information on paper jams, see Section 3.5, *The Paper Path*").

In a topic-oriented system, authors are explicitly instructed to write independent units. No linear order can be assumed and many forms of explicit cross-reference are discouraged.

Documentation managers treat the library of available topics very much as programmers treat libraries of available functions. Just as any given program can pick and choose from the available libraries, the documentation for any given system can pick and choose from the available topics.

If you imagine a large documentation group managing the documentation for several related systems (different models of printer, different configurations of a software system, computers assembled from different components, etc.) it's easy to see the appeal of topic-oriented authoring.

In a successful deployment, you might find a library of say 1,000 topics which, taken together, document five or six related systems, each of which uses 700-800 topics. Some topics are used in every system, many are used in several systems, and a small number of topics are unique to a specific system.

In order to make such a documentation platform functional, you need not only the individual topics, but also some sort of "map" or "assembly" file that describes which topics from the library are used, what relationships exist between them and, at least for print presentation, what linear order is to be imposed upon them.

DocBook uses assemblies for this purpose, see *DocBook 5.1: The Definitive Guide [http://docbook.org/tdg51/en/html/]*, Chapter 6 [http://docbook.org/tdg51/en/html/ch06.html].

B.2 Changes in DocBook V5.1CR3

This release contains a bug fix.

1. Fixed issue #305 [http://sourceforge.net/p/docbook/rfes/305/]; made navigational components optional in sect1.

B.3 Changes in DocBook V5.1CR2

This release contains bug fixes and improvements over V5.1CR1.

- 1. Use final ITS 2.0 schemas.
- 2. Fixed issue #303 [http://sourceforge.net/p/docbook/rfes/303/]; moved multimediaparam into the *data elements and allow the *data elements to be repeated.
- 3. Added RDFa Lite attributes to DocBook; removed the separate customization layer.
- 4. Added source for catalog.xml.

B.4 Changes in DocBook V5.1CR1

This release contains bug fixes and improvements over V5.0.

- 1. Updated the db4-upgrade. script.
- 2. Added an RDFa Lite extension schema.
- 3. Merged ITS changes.
- 4. Fixed issue #300 [http://sourceforge.net/p/docbook/rfes/300/]; added a class to see/seealso to handle the 'under' case.
- 5. Fixed issue #277 [http://sourceforge.net/p/docbook/rfes/277/]; added a result element.
- 6. Added @its:version, improved better handling of extensibility.
- 7. Merged pull request #5 [https://github.com/docbook/docbook/issues/5] from kosek/master.
- 8. Updated ITS to support ITS 2.0
- 9. Fixed issue #298 [http://sourceforge.net/p/docbook/rfes/298/]; don't allow secondary without primary in indexterm.
- 10. Fixed issue #295 [http://sourceforge.net/p/docbook/rfes/295/]; allow navigation components at the beginnings of sections.
- 11. Fixed issue #293 [http://sourceforge.net/p/docbook/rfes/293/]; removed spurious, duplicate 'other' value.
- 12. Attempt to implement the whole proposal for accessability attributes in CALS tables.
- 13. Fixed issue #293 [http://sourceforge.net/p/docbook/rfes/293/]; allow admonitions in formal objects.
- 14. Fixed: issue #299 [http://sourceforge.net/p/docbook/rfes/299/]; allow articles in sets.

- 15. Added scope attribute to CALS tables.
- 16. Removed format attribute from output element; the standard effectivity attribute outputformat can be used instead.
- 17. Added outputformat as an effectivity attribute.
- 18. Added: AltGr and Return to keycap class values.
- 19. Renamed fileref attribute to href in on resources in assemblies.
- 20. Fixed bug in Schematron assertions about XLink, thanks to Hussein Shafie
- 21. Fixed issue #292 [http://sourceforge.net/p/docbook/rfes/292/]; added pgwide to informalexample and informalequation.
- 22. Made info on structure and module optional in assemblies.
- 23. Implemented recent TC decisions about assemblies.
- 24. Adopted the recent proposals to add attributes/parameters to audio and video objects.
- 25. Fixed reference to broken pattern; make sure linking attributes are on areas.
- 26. Fixed issue #285 [http://sourceforge.net/p/docbook/rfes/285/]; made content optional in components and sections.
- 27. Allow link in extendedlink, in preparation for arc and locator being removed in V6.0.
- 28. Added extendedlink changes to the V6.0 future use comments.
- 29. Fixed issue #289 [http://sourceforge.net/p/docbook/rfes/289/]; allow multiple procedure elements in task.
- 30. Fixed issue #288 [http://sourceforge.net/p/docbook/rfes/288/]; allow tag elements to nest
- 31. Reworked XLink attributes to support simple/extended links.
- 32. Added pattern for imagedata, SVG, and MathML content (so that it can be extended by the XInclude schema).
- 33. Added XInclude to images and equations; allow foreign, namespace-qualified attributes on the xi:include element.
- 34. Fixed issue #276 [http://sourceforge.net/p/docbook/rfes/276/]; broaden content model of contrib.
- 35. Fixed issue #282 [http://sourceforge.net/p/docbook/rfes/282/]; update HTML informaltable attributes.
- 36. Fixed issue #283 [http://sourceforge.net/p/docbook/rfes/283/]; allow production to contain rhs+.
- 37. Fixed issue #284 [http://sourceforge.net/p/docbook/rfes/284/]; support ISTC as a biblioid class.
- 38. Attempt to implement Larry's latest suggestions about assemblies.
- 39. Fixed issue #281 [http://sourceforge.net/p/docbook/rfes/281/]; allow xi:include in set.
- Fixed issue #280 [http://sourceforge.net/p/docbook/rfes/280/]; added securitycontext and other to systemitem.

- 41. Fixed issue #279 [http://sourceforge.net/p/docbook/rfes/279/]; allow dedication in article.
- 42. Changed Schematron namespace to official ISO Schematron URI.
- 43. Allow topic in chapter and appendix (as an alternative to narrative content) per May 2010 TC meeting.
- 44. Fixed content model of book and part to make topic an alternative, not part of the component mixture.
- 45. Allow the other major components of an assembly to be top level elements (so they can be stored in separate files, for example).
- 46. Allow an assembly without any structure elements.
- 47. Tweak assembly schemas.
- 48. Allow override element in assemblies.
- 49. Generalized toc/index to db.navigation.components in assembly structure and module for consistency
- 50. Updated: in assembly, if at least one resource is required, then at least one structure should be required as well.
- 51. Removed description attribute from assemblies (no content in attributes!); added some refpurpose documentation for attributes and attribute values.
- 52. Added refpurpose for type attribute.