



Lightweight DITA: An Introduction

Working Draft 05

1 February 2017

Specification URIs

This version:

<http://docs.oasis-open.org/dita/LwDITA/v1.0/cn01/LwDITA-v1.0-cn01.html>

(Authoritative)

<http://docs.oasis-open.org/dita/LwDITA/v1.0/cn01/LwDITA-v1.0-cn01.pdf>

Previous version:

Not applicable.

Latest version:

<http://docs.oasis-open.org/dita/LwDITA/v1.0/LwDITA-v1.0.html> (Authoritative)

<http://docs.oasis-open.org/dita/LwDITA/v1.0/LwDITA-v1.0.pdf>

Technical Committee:

[OASIS Darwin Information Typing Architecture \(DITA\) TC](#)

Chair:

Kristen James Eberlein (kris@eberleinconsulting.com), [Eberlein Consulting LLC](#)

Editors:

Carlos Evia (cevia@vt.edu), [Virginia Tech](#)

Kristen James Eberlein (kris@eberleinconsulting.com), [Eberlein Consulting LLC](#)

Additional artifacts:

This document is part of a work product that also includes:

- ZIP file that contains the DITA source for this document. <http://docs.oasis-open.org/dita/LwDITA/v1.0/cn01/LwDITA-v1.0-cn01-DITA-source.zip>

Related work:

This document is related to:

- Darwin Information Typing Architecture (DITA) Part 0: Overview. <http://docs.oasis-open.org/dita/dita/v1.3/dita-v1.3-part0-overview.html>.
- Darwin Information Typing Architecture (DITA) Part 1: Base Edition. <http://docs.oasis-open.org/dita/dita/v1.3/dita-v1.3-part1-base.html>. This edition contains topic and map; it is designed for implementers and users who need only the most fundamental pieces of the DITA framework.

This is a Non-Standards Track Work Product. The patent provisions of the OASIS IPR Policy do not apply.

- Darwin Information Typing Architecture (DITA) Part 2: Technical Content Edition. <http://docs.oasis-open.org/dita/dita/v1.3/dita-v1.3-part2-tech-content.html>. This edition contains the base architecture plus the technical-content specializations; it is designed for authors who use information typing and document complex applications and devices.
- Darwin Information Typing Architecture (DITA) Part 3: All-Inclusive Edition. <http://docs.oasis-open.org/dita/dita/v1.3/dita-v1.3-part3-all-inclusive.html>. This edition contains the base architecture, technical content, and the learning and training specializations. It is designed for implementers who want all OASIS-approved specializations, as well as users who develop learning and training materials.

Abstract:

Lightweight DITA (LwDITA) is a slimmed-down version of DITA that is designed to ease adoption and implementation of DITA.

LwDITA provides a subset of the functionality of the full DITA standard. It has a limited element and attribute set, stricter content models, support for non-XML languages such as HTML5 and Markdown, and a simplified specialization mechanism.

Status:

This document was last revised or approved by the OASIS Darwin Information Typing Architecture (DITA) TC on the above date. The level of approval is also listed above. Check the "Latest version" location noted above for possible later revisions of this document.

TC members should send comments on this document to the TC's email list. Others should send comments to the TC's public comment list, after subscribing to it by following the instructions at the "Send A Comment" button on the TC's web page at https://www.oasis-open.org/committees/comments/index.php?wg_abbrev=dita.

Citation format:

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

[LwDITA-intro-v1.0]

Lightweight DITA: An Introduction Version 1.0. Edited by Carlos Evia and Kristen James Eberlein. 1 February 2017. Working Draft 05. <http://docs.oasis-open.org/dita/LwDITA/v1.0/cn01/LwDITA-v1.0-cn01.html>. Latest version: <http://docs.oasis-open.org/dita/LwDITA/v1.0/LwDITA-v1.0.html>.

Notices

Copyright © OASIS Open 2017. All Rights Reserved.

All capitalized terms in the following text have the meanings assigned to them in the OASIS Intellectual Property Rights Policy (the "OASIS IPR Policy"). The full [Policy](#) may be found at the OASIS website.

This document and translations of it may be copied and furnished to others, and derivative works that comment on or otherwise explain it or assist in its implementation may be prepared, copied, published, and distributed, in whole or in part, without restriction of any kind, provided that the above copyright notice and this section are included on all such copies and derivative works. However, this document itself may not be modified in any way, including by removing the copyright notice or references to OASIS, except as needed for the purpose of developing any document or deliverable produced by an OASIS Technical Committee (in which case the rules

This is a Non-Standards Track Work Product.
The patent provisions of the OASIS IPR Policy do not apply.

applicable to copyrights, as set forth in the OASIS IPR Policy, must be followed) or as required to translate it into languages other than English.

The limited permissions granted above are perpetual and will not be revoked by OASIS or its successors or assigns.

This document and the information contained herein is provided on an "AS IS" basis and OASIS DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY THAT THE USE OF THE INFORMATION HEREIN WILL NOT INFRINGE ANY OWNERSHIP RIGHTS OR ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Table of contents

| | | |
|--------------|---|----|
| 1 | Introduction..... | 5 |
| 1.1 | References..... | 5 |
| 1.2 | Terminology..... | 6 |
| 2 | Why Lightweight DITA?..... | 7 |
| 2.1 | Simplified structure..... | 7 |
| 2.2 | Support for non-XML formats..... | 7 |
| 2.3 | Simplified specialization mechanism..... | 8 |
| 3 | Lightweight DITA design..... | 9 |
| 3.1 | Subset of DITA 1.3 elements..... | 9 |
| 3.2 | Stricter content model..... | 10 |
| 3.3 | Subset of reuse mechanisms..... | 11 |
| 3.4 | New multimedia elements..... | 12 |
| 3.5 | New specialization attributes and elements..... | 13 |
| 3.6 | LwDITA document types..... | 14 |
| 3.6.1 | LwDITA topic..... | 14 |
| 3.6.2 | LwDITA map..... | 15 |
| 4 | LwDITA authoring formats..... | 16 |
| 4.1 | XDITA..... | 16 |
| 4.1.1 | Audience for XDITA..... | 16 |
| 4.1.2 | Example of an XDITA topic..... | 16 |
| 4.1.3 | Example of an XDITA map..... | 18 |
| 4.2 | HDITA..... | 18 |
| 4.2.1 | Audience for HDITA..... | 18 |
| 4.2.2 | Example of an HDITA topic..... | 19 |
| 4.2.3 | Example of an HDITA map..... | 19 |
| 4.3 | MDITA..... | 20 |
| 4.3.1 | Audience for MDITA..... | 20 |
| 4.3.2 | Example of an MDITA topic..... | 20 |
| 4.3.3 | Example of an MDITA map..... | 21 |
| 4.4 | Authoring cross-format content with LwDITA..... | 22 |
| 4.4.1 | Cross-format example: DITA map..... | 22 |
| 4.4.2 | Cross-format example: XDITA topic..... | 23 |
| 4.4.3 | Cross-format example: HDITA topic..... | 23 |
| 4.4.4 | Cross-format example: MDITA topic..... | 24 |
| 5 | LwDITA specialization model..... | 25 |
| 5.1 | Example of template-based specialization..... | 26 |
| 5.2 | Defining specialized elements..... | 28 |
| 6 | Lightweight DITA tools..... | 30 |
| Appendix A | LwDITA elements and attributes..... | 31 |
| Appendix A.1 | DITA 1.3 elements in LwDITA..... | 31 |
| Appendix A.2 | New multimedia elements..... | 33 |
| Appendix A.3 | DITA 1.3 attributes in LwDITA..... | 34 |
| Appendix B | Acknowledgments..... | 36 |
| Appendix C | Revision history..... | 37 |

1 Introduction

Lightweight DITA (LwDITA) is a slimmed-down version of the Darwin Information Typing Architecture (DITA). It is designed to ease adoption and implementation of DITA.

This committee note explains the rationale for LwDITA. It also provides an overview of the audiences for LwDITA, information about its three authoring formats, and an introduction to the proposed mechanism for template-based topic specialization.

1.1 References

The following are references to external documents or resources that readers of this document might find useful.

[CommonMark]

CommonMark Version 0.26. Edited by John MacFarlane. 15 June 2016. <http://spec.commonmark.org>. Latest version: <http://spec.commonmark.org/0.26/>.

[GFM]

Writing on GitHub. <https://help.github.com/categories/writing-on-github/>.

[HTML5]

HTML5 W3C Recommendation. Edited by Ian Hickson, Robin Berjon, Steve Faulkner, Travis Leithead, Erika Doyle Navara, Edward O'Connor, and Silvia Pfeiffer. 28 October 2014. <http://www.w3.org/TR/2014/REC-html5-20141028/>. Latest version: <http://www.w3.org/TR/html5/>.

[LwDITA-cross-format-content]

Cross-format content with Lightweight DITA. Session by Michael Priestley, Jenifer Schlotfeldt, and Carlos Evia. Session at CMS/DITA North America 2016. Latest version: http://www.slideshare.net/mpriestley/crossformat-content-with-lightweight-dita?qid=802e7d40-7bbf-42ba-8aca-a446cdb78ce5&v=&b=&from_search=6.

[LwDITA-pre/overview]

Lightweight DITA: A pre/overview. Session by Michael Priestley at CMS/DITA North America 2016. Latest version: http://www.slideshare.net/mpriestley/lightweight-dita-a-preoverview?qid=b2aade0d-6c48-4ca7-b572-f69ff3f9467f&v=&b=&from_search=3

[LwDITA]

Overview of Lightweight DITA. Blog post by Michael Priestley. 11 April 2014. Latest version: <http://dita.xml.org/blog/overview-of-lightweight-dita-xdita-and-hdita>

[LwDITA-IXIASOFT]

Lightweight DITA: What Is It and Can I Use It in the IXIASOFT DITA CMS? Authored by Leigh W. White. 28 November 2016. Latest version: <http://www.ixiasoft.com/en/news-and-events/blog/2016/lightweight-dita-what-it-and-can-i-use-it-ixiasoft-dita-cms/>.

[Markingdown-DITA]

Marking Down DITA. Authored by Roger Fienhold Sheen. 30 April 2015. Latest version: <http://infotexture.net/2015/04/dita-ot-markdown-plugin/>.

[Structured-Authoring-wo-XML]

Structured Authoring without XML: Evaluating Lightweight DITA for Technical Documentation
Authored by Carlos Evia and Michael Priestley. *Technical Communication*, volume 63,
number 1 (February 2016): 23-37. [http://www.ingentaconnect.com/contentone/stc/
tc/2016/00000063/00000001/art00004](http://www.ingentaconnect.com/contentone/stc/tc/2016/00000063/00000001/art00004).

[YAML]

YAML Specification Index. Edited by Oren Ben-Kiki, Clark Evans, Ingy döt Net. 29 September
2009. <http://yaml.org/spec/>. Latest version: <http://yaml.org/spec/1.2/spec.html>.

1.2 Terminology

This section provides information about terminology and how it is used in this committee note.

ATX headers

(MDITA) One or two hash (#) marks at the beginning of a line of text. One hash mark indicates a topic title, and two hash marks indicates a section title.

document type

A type of DITA topic or map that is designed for a specific purpose.

specialization

The process of creating a new DITA element or attribute from an existing element or attribute. The new element or attribute inherits characteristics from the element or attribute from which it was specialized, which reduces design work and enables the reuse of existing transformations.

2 Why Lightweight DITA?

Lightweight DITA (LwDITA) is a slimmed-down version of DITA that is designed to ease adoption and implementation of DITA. It also adds support for authoring in HTML5 and Markdown, as well as a simplified mechanism for specialization.

John Hunt's questions to address here:

* What are the major benefits of DITA? * Which of those do you get with LwDITA? * Which DITA benefits do you lose? * What new benefits does LwDITA bring? * What is it about LwDITA that eases adoption and implementation? (Do you get most of the benefits, but less of the cost, for example?)

2.1 Simplified structure

Full DITA has more power (and thus complexity) than is needed in some situations. LwDITA provides a slimmed-down alternative.

Conference presentations and practitioners' blogs occasionally describe DITA as an intimidating language with too many element types. In the all-inclusive edition, the DITA 1.3 standard has 26 document types and 621 element types. Even in the base edition, DITA 1.3 has four document types and 189 element types. In contrast, LwDITA has one topic type that can contain a maximum of 35? element types.

Although the many features and strengths of full DITA are undoubtedly useful for large content collections and environments that require multiple deliverables in many platforms for diverse audiences, this comes with the added cost of complexity. LwDITA seeks to address this complexity, and it helps overcome some of the barriers to adoption that are faced by full DITA.

LwDITA's core design principle is that a simplified DITA will be an easier entry point to DITA for both authors and vendors building commercial tools and applications.

2.2 Support for non-XML formats

LwDITA adds support for structured authoring in HTML5 and Markdown.

New forms of non-XML structured authoring have gained popularity. Authors are using the extended semantic markup of HTML5 to create structured documents for the Web. Many in industry and academia have also adopted text-only languages like JSON or Markdown.

In its initial release, LwDITA has three authoring formats:

- XDITA: A XML-based variant
- HDITA: An HTML5-based variant
- MDITA: A Markdown-based variant

Comment by Carlos Evia on 5 January 2017

Add para here mentioning that LwDITA can expand to include additional authoring formats?

These three authoring formats do not represent a final version of LwDITA. The Lightweight DITA Subcommittee decided to focus on XML, HTML5, and Markdown for this initial release based on members' interest and expertise. LwDITA can expand to additional authoring formats (e.g., JSON, AsciiDoc, MS Word) based on audience interest and design capability in the Subcommittee membership.

HDITA and XDITA are designed to be fully compatible with each other, while MDITA is a compatible subset that depends on some HDITA elements and attributes to overcome Markdown's limitations as a language for authoring structured and reusable content. XDITA and HDITA conform with the OASIS DITA and W3C HTML5 standards, respectively. MDITA aligns with the CommonMark effort for a Markdown standard, while also adopting some elements of GitHub Flavored Markdown and YAML.

Comment by Kristen J Eberlein on 30 November 2016

This will do for now, but I think we are going to need to be very rigorous about how we talk about compatibility and conformance. I expect that we will need a separate topic (topics?) to cover this.

The multiple authoring formats are designed to enable authors to continue working with the type of structured content – XML, HTML, or Markdown – that they are comfortable with and currently using. Rather than asking authors to adopt a single authoring platform, LwDITA provides mappings from one authoring format to another.

LwDITA also acts an entry point to full DITA for those who need more functionality and richer semantic structures.

2.3 Simplified specialization mechanism

DITA specialization is a powerful feature that can be intimidating for authors without XML proficiency. LwDITA provides a simplified template-based alternative.

The specialization feature of DITA allows for the creation of new element types and attributes that are explicitly and formally derived from existing types. Specialization is probably the main distinguishing feature of DITA. It is a machine-readable extension mechanism that allows great flexibility while still keeping specialized elements and topics as valid DITA. Specialization is a unique DITA feature (unavailable in XML-based structured languages such as DocBook, S1000D, etc.). Nevertheless, many who are now using DITA do not take advantage of specialization. The perceived complexity of specialization is much of the reason for this.

LwDITA introduces a template-based specialization mechanism that allows authors who are not advanced XML users or do not want to specialize information types following DITA 1.3's recommendations, to create elements and topics unique to their work requirements that would still be compatible with DITA and LwDITA. Using a handful of new LwDITA elements and attributes, authors can generate specialized topic types ready to structure content in XDITA and HDITA (because Markdown has no tags, specialization in MDITA will be limited to a subset of use cases based on HDITA syntax).

3 Lightweight DITA design

LwDITA is designed to have a smaller element set, a stricter content model, and fewer reuse mechanisms than DITA 1.3. However, LwDITA also includes new elements and attributes that are added to provide increased multimedia support and lay the groundwork for a simplified process for specializing topics.

3.1 Subset of DITA 1.3 elements

LwDITA is designed to use a strict subset of the elements that are available in DITA 1.3.

The subset was carefully chosen to include the most basic constructions that are needed in order to structure information effectively. Diverse industries and sectors – education, engineering, healthcare, and marketing – were considered.

The elements selected represent the following types of information:

- Alternate text
- Body
- Figure
- Footnote
- Image
- In-line formatting: Bold, italics, underline, super script, subscript
- Lists
 - Definition list
 - List item
 - Ordered list
 - Unordered list
- Map
- Note
- Paragraph
- Phrase
- Prolog
- Preformatted text
- Section
- Short description
- Table
- Title
- Topic

The intersection of LwDITA and DITA 1.3 includes 34 elements.

Comment by carloseviapuerto on 17 January 2017

Need to revise this number when we are done with mappings.

For a complete list of the DITA 1.3 elements that are included in LwDITA, and how they are represented in LwDITA's authoring formats, see [DITA 1.3 elements in LwDITA \(31\)](#).

3.2 Stricter content model

LwDITA has a much stricter content model than DITA 1.3 This ensures a predictable markup structure in topics that simplifies reuse, transformations, style sheet logic, and tools development.

LwDITA's stricter content model (compared to those included in DITA 1.3) minimizes authoring decisions by presenting limited choices for elements and attributes. These minimized models, however, depend on a few strict structuring rules. For example, in XDITA and HDITA (the LwDITA authoring formats based on XML and HTML5, respectively), all text must be within paragraph (<p>) elements. An exception is the short description <shortdesc> element. Within paragraphs, the following inline elements can appear:

- Bold
- Italics
- Phrase
- Superscript
- Subscript
- Underline (only available in XDITA)

Comment by Kristen J Eberlein on 09 January 2017

Feedback from Ullakaisa Kalanfer and others at Citec:

Other exceptions are <title> and <desc> elements.

They agree with Deb Bissantz that it would be handy to have a list of block elements.

In DITA 1.3, the following markup is valid:

```
<section>Compatible light bulbs include the following:
<ul>
  <li>Compact Fluorescent</li>
  <li>Light Emitting Diode</li>
</ul>
</section>
```

In contrast, in XDITA, the following markup must be used:

```
<section>
<p>Compatible light bulbs include the following:</p>
<ul>
  <li>
    <p>Compact Fluorescent</p>
  </li>
  <li>
    <p>Light Emitting Diode</p>
  </li>
</ul>
```

</section>

Note that all text is wrapped in <p> elements.

In MDITA (the LwDITA authoring format based on Markdown), the minimized content model benefits from Markdown's simple information structures for paragraphs, lists, and other block elements.

3.3 Subset of reuse mechanisms

LwDITA has a smaller set of reuse mechanisms than DITA 1.3. With a few exceptions due to syntax limitations, these reuse mechanisms work across all three LwDITA authoring formats.

Conditional processing

The only conditional processing attribute is the @props attribute.

Content reference

The @conref attribute is available only on the following elements:

- List item

Comment by carloseviapuerto on 23 January 2017

Should this list be more "list item, ordered list, paragraph..." instead of the raw XML element? After all, we are also covering their equivalents in MDITA and HDITA

- Ordered list
- Paragraph
- Section
- Table
- Unordered list

Comment by Kristen J Eberlein on 09 January 2017

Feedback from Ullakaisa Kalanfer and others at Citec:

Why isn't @conref available on <dl> and <note>?

That also begs the question of <dlentry>, <dt>, and <dd> ...

Key reference

The @keyref attribute is available only on the Phrase or Span element.

Variable text

For variable text, such as product names, authors can use @keyref on Phrase or Span.

Comment by Kristen J Eberlein on 2 December 2016

I think we should add some of the reasons for these design choices.

Comment by Carlos Evia on 15 December 2016

Need to include content here to address reuse in HDITA and MDITA.

Comment by Carlos Evia on 16 December 2016

This topic looks very restrictive: authors are limited to and can't... Instead, should focus on what LwDITA allows by keeping things simple. Consider non-DITA audiences..

Comment by Kristen J Eberlein on 21 December 2016

I think we need to accept the fact that our primary audience – at this point – is the DITA TC and current users of DITA. They need to know in clear terms exactly what the design for XDITA is. Yes, HDITA and MDITA are important, but I think trying to amalgamate everything together – or add disclaimers as you did in the "Stricter content model" are getting in the way of our ability to articulate the initial design.

If DITA is the parent, then XDITA is the child. I think HDITA is a cousin that has been adopted – and XDITA is trying to catch up to her facility with multimedia. MDITA is the youngest adopted child and maybe has some developmental limitations, although some people think he is most fun to play with.

This design simplifies the DITA authoring experience, as there are no choices to be made. To reuse block-level content, authors will use `<conref>`. For phrase-level content, authors will use `<keyref>`.

For a complete list of the DITA 1.3 attributes that are included in LwDITA, and how they are represented in LwDITA's authoring formats, see [DITA 1.3 attributes in LwDITA \(34\)](#).

3.4 New multimedia elements

LwDITA adds new elements for multimedia content. These elements are designed for compatibility with HTML5.

For years, authors have found different approaches to embed multimedia content in DITA-based deliverables for web distribution. The DITA 1.3 specification recommends the `<object>` element to include multimedia content in a topic, pointing out that it corresponds to the `<object>` element in HTML. However, one of HTML5's key features was the introduction of direct elements for audio and video, which made some instances of the `<object>` element usage obsolete. LwDITA updates the XML-to-HTML element correspondence and introduces the following multimedia elements, which are specialized from the DITA 1.3 `<object>` element:

Audio

Comment by carloseviapuerto

Same here: should this list be more the name of the element instead of its XML representation? We are also covering HDITA and MDITA in this topic.

Audio is a link to sound to be included in the content

Controls

Comment by carloseviapuerto on 17 January, 2017

Apparently at one point controls was going to accept y/n as a value... but that changed. What kind of content goes in it? Question for Mark G. or Michael P.

Controls enable user interfaces for video playback and volume in Web-aimed transformations

Fallback

Fallback is content, or a link, presented as alternative to media resources of audio or video.

Poster

Poster is a link to an image or static video frame

Source

Source is a link to media resources of audio or video content

Track

Track is a link time-based text data relevant to audio or video content

Video

Video is a link to an audiovisual product to be included in the content

3.5 New specialization attributes and elements

LwDITA introduces new attributes for simplified content type specialization.

Comment by Carlos Evia

Mention that specialization will be addressed in a future publication?

Attributes for defining structural specializations

The following attributes are specialized from @base; they are available on all XDITA elements.

Comment by Kristen J Eberlein on 09 January 2017

We need to be careful in wording here. The TC is NOT going to do two releases of Lightweight DITA.

If the design for Lightweight DITA includes new mechanisms for template-based specialization, the design work for that component needs to be nailed down quickly.

@specname

Provides the name for the specialized element

@specmodel

Enables the author to define a sequence, define a choice group, or decide that the content model should be the same of the original element

@importance

Specifies whether the element is required or optional

Elements for specializations of <ph>, <data> and @props

The following elements are available for use in <prolog>:

<specmeta>

Describes any number of <data>, <ph>, or <specatt> elements. <data> and <ph> must be annotated with @specname to define the name of the specialized elements.

<specmeta> is a child of <prolog>.

<specatt>

Defines specializations of @props, using the value of @specname to define the name of the specialized attribute

Attribute for single-sourcing

@specrole

Specifies whether the content of an element is intended to be generated by the transform, editable by the author, an editor prompt, documentation, or used for content modeling purposes only (or any mix of the above); if unset, element content is editable by author (part of the template)

Comment by Kristen J Eberlein on 15 December 2016

This needs more work. What values will this attribute take?

Comment by Kristen J Eberlein on 15 December 2016

Carlo's paste of content from the GitHub repo included the following in its discussion of @importance: "defaults to required in a sequence; optional in a choice group." How?

Comment by Kristen J Eberlein on 15 December 2016

What will <specatt> and <specmeta> be specialized from? Has this work been done?

And how do you plan handle domain specializations? How will they be used across topics?

3.6 LwDITA document types

LwDITA includes document types for topic and map.

3.6.1 LwDITA topic

The LwDITA topic contains the fundamental structures that are necessary to author a unit of stand-alone information.

A LwDITA topic can contain the following structural elements:

Title

A label that connotes the purpose of the content that is associated with it.

Short description

A brief depiction of the purpose or theme of a topic.

Prolog

A container for metadata about a topic (for example, author information or subject category).

Body

A container for the main content of a topic. It might include several sections.

Section

An organizational division within a topic. It can have an optional title.

A LwDITA topic can be represented, with modifications to accommodate different authoring languages, in XDITA, MDITA, and HDITA.

3.6.2 LwDITA map

The LwDITA map contains the fundamental structures that are necessary to create a content collection model and establish relationships among resources.

A LwDITA map can contain the following structural elements:

Data

Map

A map describes the relationships among a set of resources, such as LwDITA and DITA topics

Navigation title

Topic metadata

Topic reference

A LwDITA map can be represented, with modifications to accommodate different authoring languages, in XDITA, MDITA, and HDITA.

4 LwDITA authoring formats

LwDITA simplifies the DITA experience by offering authoring formats based on a subset of DITA 1.3 XML, HTML5, and Markdown. These formats can work independently but can also support the creation of cross-format content.

Comment by Carlos Evia on 19 January 2017

Do we need more here than what we already have in the "Support for non-XML formats" topic? "HDITA and XDITA are designed to be fully compatible with each other, while MDITA is a compatible subset that depends on some HDITA elements and attributes to overcome Markdown's limitations as a language for authoring structured and reusable content . XDITA and HDITA conform with the OASIS DITA and W3C HTML5 standards, respectively. MDITA aligns with the CommonMark effort for a Markdown standard, while also adopting some elements of GitHub Flavored Markdown and YAML."

4.1 XDITA

XDITA is the authoring format of LwDITA that uses XML to structure information. XDITA is a subset of DITA, with new multimedia elements added to support interoperability with HTML5.

Comment by Carlos Evia on 5 December 2016

After we introduce the three LwDITA "flavors," we will need a topic to show how they play together: Maps in XDITA, MDITA, and HDITA referencing X, H, and M topics.

4.1.1 Audience for XDITA

XDITA is designed to be used by individuals who want to author DITA content but whom do not want (or need) the full power of DITA

Example of potential users of XDITA include the following:

- Information developers who use an XML editor but who want a smaller set of elements and attributes with which to work
- Departments who want to reduce the cost of developing and maintaining style sheets by eliminating mixed content

Comment by carloseviapuerto

John Hunt says: "Can this be recast more generally, as processing or rendering?" Not sure how to address that...

- Content developers who want their DITA content to be subsumed by a product documentation set that is based on Markdown or HTML5

4.1.2 Example of an XDITA topic

The following topic is authored in XDITA. In addition to basic DITA elements, note the new `<video>` element that is highlighted in bold.

Comment by Kristen J Eberlein on 24 November 2016

Is the markup for the `<data>` element what we want to recommend? Would the following be preferable?

```
<data name="author">
  <data value="Kevin Lewis"/>
</data>
```

Or the following?

```
<data name="author" value="Kevin Lewis"/>
```

Comment by Carlos Evia on 30 November 2016

K. Eberlein's recommendation for data is correct and I have updated the example.

```
<topic id="install-and-setup">
  <title>Installing and Setting up Remote Lighting</title>
  <shortdesc>Installation of your lighting kit includes
installing the light bulbs into light fixtures, preparing the
remote control, and programming lighting groups.
</shortdesc>
  <prolog>
  <data name="author" value="Kevin Lewis"/>
  </data>
  </prolog>
  <body>
  <section>
  <title>Steps</title>
  <ul>
  <li><p>Install light bulbs.</p></li>
  <li><p>Prepare remote control.</p></li>
  <li><p>Program lighting groups.</p></li>
  </ul>
  </section>
  <section>
  <title>Example</title>
  <p>The following video demonstrates a recommended
installation:</p>
  <video>
  <controls />
  <source value="remote.mp4" />
  </video>
  </section>
  </body>
</topic>
```

XDITA topics are designed to be fully compatible with DITA topics. An author can work on an XDITA topic and keep it in a collection of LwDITA topics, but that same topic will also be compatible with maps and topics authored in DITA 1.3.

4.1.3 Example of an XDITA map

The following map is authored in XDITA.

```
<map id="remote-main">
  <topicmeta>
    <navtitle>Remote Lighting Network</navtitle>
  </topicmeta>
  <topicref href="introduction.dita">
    <topicmeta>
      <navtitle>Introduction</navtitle>
    </topicmeta>
  </topicref>
  <topicref href="alternatives.dita">
    <topicmeta>
      <navtitle>Alternative lighting setups</navtitle>
    </topicmeta>
    <topicref href="low-power.dita">
      <topicmeta>
        <navtitle>Low power installation</navtitle>
      </topicmeta>
    </topicref>
    <topicref href="high-power.dita">
      <topicmeta>
        <navtitle>High power installation</navtitle>
      </topicmeta>
    </topicref>
  </topicref>
</map>
```

Comment by Carlos Evia on 5 December 2016

Next example will show how to use keys and other attributes in XDITA

4.2 HDITA

HDITA is the authoring format of LwDITA that uses HTML5 to structure information. It also uses custom data attributes to provide interoperability with DITA.

4.2.1 Audience for HDITA

HDITA is designed to be used by individuals who want to author structured content using tools that are designed for HTML authoring.

Potential users of HDITA might include the following:

- Marketing writers who want to contribute to DITA-based product documentation without using an XML editor
- Software developers who want to contribute to documentation using tools for authoring HTML content

- Teachers and trainers who want to create course content for a Web site or learning management system (LMS)
- Bloggers and content strategists who want to be able to create and edit content using mobile devices

4.2.2 Example of an HDITA topic

An HDITA topic is authored in HTML5. It also includes custom data attributes to enable interoperability with DITA.

```
<meta name="author" content="Kevin Lewis">
<article id="install-and-setup">
<h1>Installing and Setting up Remote Lighting</h1>
  <p data-hd-class="shortdesc">Installation of your lighting
  kit includes installing the light bulbs into light fixtures,
  preparing the remote control, and programming lighting
  groups.</p>
  <h2>Steps</h2>
  <ul>
    <li><p>Install light bulbs.</p></li>
    <li><p>Prepare remote control.</p></li>
    <li><p>Program lighting groups.</p></li>
  </ul>
  <h2>Example</h2>
  <p>The following video demonstrates a recommended
  installation:</p>
  <video src="remote.mp4" controls poster="remote.png" />
</article>
```

HDITA topics are designed to be fully compatible with XDITA and DITA topics. Additionally, because HDITA is based on the HTML5 standard, an author can "round-trip" an HDITA topic and keep working on it as an independent HTML5 file. The HDITA custom data attributes for content reuse and compatibility with DITA will not affect validation of an HDITA topic as HTML5.

4.2.3 Example of an HDITA map

An HDITA map is authored in HTML5

```
<nav>
  <h1>Remote Lighting Network</h1>
  <ul>
    <li><a href="introduction.html">Introduction</a></li>
    <li><a href="alternatives.html">Alternative lighting
    setups</a>
    <ul>
      <li><a href="low-power.html">Low power installation</
      a></li>
      <li><a href="high-power.html">High power installation</
      a></li>
    </ul>
    </li>
  </ul>
</nav>
```

Comment by Carlos Evia on 5 December 2016

Next example will show how to use keys and other attributes in HDITA

4.3 MDITA

MDITA is the authoring format of LwDITA that uses Markdown to structure information.

4.3.1 Audience for MDITA

MDITA is designed to be used by individuals who want to author structured content with the minimum of overhead.

Example of potential users of MDITA include the following:

- Software developers who want to contribute to DITA-based product documentation without using an XML editor
- Software developers who want to contribute to product documentation using the tools and markup of their choice
- Individuals authoring content using a platform, such as a mobile device, that does not support an XML editor
- Individuals authoring content quickly that must be later refactored as structured content

4.3.2 Example of an MDITA topic

An MDITA topic is authored in Markdown; it also uses YAML front matter blocks for prolog information and HDITA and XDITA elements to enable fuller interoperability with the other Lightweight DITA authoring formats

The following topic contains simple, straight-forward information structures that are readily available in Markdown:

- Title
- Paragraph
- Section title
- Section
- Unordered list

```
# Installing and Setting up Remote Lighting
```

```
Installation of your lighting kit includes installing the light bulbs into light fixtures, preparing the remote control, and programming lighting groups.
```

```
## Steps
```

- ```
1. Install light bulbs.
2. Prepare remote control.
3. Program lighting groups.
```

```
Example
```

A video could demonstrate a recommended installation.

In the second version of the topic, we incorporate additional markup (indicated in bold text) to enable interoperability with other LwDITA authoring formats and full DITA:

- A YAML front matter header. This YAML header both supplies a value for the `@id` attribute that is required on the root element of a DITA topic; it also supplies prolog metadata about who authored the DITA topic. The YAML front matter header must be the first thing in the MDITA file and must be set between triple-dashed lines.
- An HDITA element that supplies the short description for the topic.
- An HDITA element that enables the topic to reference a video.

```

id: install-and-setup
author: Kevin Lewis

Installing and Setting up Remote Lighting

<p data-hd-class="shortdesc">
Installation of your lighting kit includes installing the light
bulbs into light fixtures, preparing the remote control, and
programming lighting groups.</p>

Steps

 1. Install light bulbs.
 2. Prepare remote control.
 3. Program lighting groups.

Example

The following video demonstrates a recommended installation:

<video src="remote.mp4" controls poster="remote.png" />
```

MDITA topics are designed as a compatible subset of XDITA and HDITA topics. Because of Markdown's limitations as a language for structured content, an MDITA topic enhanced with a YAML front matter header and HDITA-like custom attributes will work in a LwDITA collection; however, that same topic might not "round-trip" to other Markdown-only environments.

### 4.3.3 Example of an MDITA map

An MDITA map is authored in Markdown.

```
Remote Lighting Network

- [Introduction] (introduction.md)
- [Alternative lighting setups] (alternatives.md)
 - [Low power installation] (low-power.md)
 - [High power installation] (high-power.md)
```

#### Comment by Carlos Evia on 5 December 2016

Next example will show how to use keys and other attributes in MDITA

## 4.4 Authoring cross-format content with LwDITA

LwDITA enables cross-format content sharing. Authors can create topics in XDITA, HDITA, or MDITA and then combine them in a collection with a sub-set of DITA's reuse capabilities.

In the following example, a hypothetical team developing content for a lighting product's manual shares topics authored in LwDITA's different formats. The team even takes advantage of DITA reuse mechanisms like `@conref` and `@keyref`. The example contains the following:

- A DITA map that links to topics authored in XDITA, HDITA, and MDITA. It also links to a topic authored in full DITA 1.3, and provides a key value for the product's name
- An XDITA topic, created by a technical writer, that reuses a `@keyref` from the map and a `@conref` from an MDITA topic
- An HDITA topic, created by a marketing specialist, that reuses a `@keyref` from the map and a `@conref` from an XDITA topic
- An MDITA topic, created by a software developer, that reuses a `@keyref` from the map and a `@conref` from an HDITA topic

### 4.4.1 Cross-format example: DITA map

The following DITA map links to topics authored in LwDITA's three formats and DITA 1.3. It also provides a key for the product's name.

```
<map>
 <title>Remote Lighting Setup</title>

 <keydef keys="product-name">
 <topicmeta>
 <keywords>
 <keyword>Remote Network Lighting</keyword>
 </keywords>
 </topicmeta>
 </keydef>

 <topicref href="xdita-topics/bulbs-to-groups.xml"
format="dita"/>
 <topicref href="hdita-topics/low-power.html" format="html"/>
 <topicref href="mdita-topics/basic-concepts.md"
format="markdown"/>
 <topicref href="external/dita-topics/contact-info.xml"
format="dita"/>
</map>
```

#### 4.4.2 Cross-format example: XDITA topic

The following XDITA topic reuses a @keyref from the map and a @conref from an MDITA topic.

```
<topic id="bulbs-to-groups">
 <title>Programming Light Bulbs to a Lighting Group</title>
 <shortdesc>You can program one or more light bulbs to
 a lighting group to operate that group with your remote
 control.</shortdesc>
 <body>
 <section id="context">
 <p>Your <ph keyref="product-name"/> remote control can
 manage up to 250 network light bulbs on the same lighting
 network. When you add a light bulb to the network, you can
 program it to one or more lighting groups.</p>
 <p id="assign-disclaimer">You must assign a light bulb to at
 least one lighting group to operate that light bulb.</p>
 </section>
 <section id="steps">

 <p conref="basic-concepts.md#basic-concepts/power-
 off" />
 <p>Remove any existing light bulb from the light
 fixture.</p>
 <p>Install the network light bulb into the light
 fixture as you would any standard light bulb.</p>
 <p>Turn power to the light fixture on.</p>

 </section>
 </body>
</topic>
```

#### 4.4.3 Cross-format example: HDITA topic

The following HDITA topic reuses a @keyref from the map and a @conref from an XDITA topic.

```
<!DOCTYPE html>
<title>Low-Power Networking</title>
<article id="low-power">
<h1>Low-Power Networking</h1>
<p data-hd-class="shortdesc">Your <span data-hd-
keyref="product-name" /> operates at a low level of networking
power but can successfully connect at long distances because
they can send information from light bulb to light bulb.</p>
<p data-hd-conref="bulbs-to-groups.xml#bulbs-to-groups/assign-
disclaimer" />
<p id="disconnect-warning" data-hd-class="note">Even in low
power networks, be sure to disconnect all devices before
performing maintenance tasks.
</article>
```

#### 4.4.4 Cross-format example: MDITA topic

The following MDITA topic reuses a @keyref from the map and a @conref from an HDITA topic.

```

id: basic-concepts

Basic Concepts of Network Lighting

<p data-hd-class="shortdesc">You can network LED light bulbs
together from your to
operate wirelessly from a remote control.</p>

Network light bulbs work with your light fixtures the same way
as standard light bulbs. They are different, however, in a
couple of ways:

 - The lighting element in the light bulb uses energy-
efficient LED technology.
 - The light bulb includes wireless technology that allows
the light bulb to connect to a network and be managed
remotely.

<p id="power-off">Make sure power to the fixture where you are
installing the light bulb is turned OFF.</p>

<p data-hd-conref="low-power.html#low-power/disconnect-
warning" />
```



## 5 LwDITA specialization model

Specialization is a unique and powerful feature of the DITA standard. However, specialization can be intimidating for casual DITA users. LwDITA aims to simplify specialization by introducing a template-based model for creating new element, attribute, and topic types.

### Comment by Kristen J Eberlein on 1 December 2016

This topic (or set of topics) needs to cover the following:

- Description of the template-based specialization mechanism
- Acknowledgement? Coverage? of the attributes added to LwDITA to enable the template-based specialization mechanism
- Example of a (simple) LwDITA topic that would be input to a tool that generates the specialization
- Example of the generated grammar file
- A general description of the algorithm that a tool uses to construct the grammar file for the specialization.

**Important:** The actual LwDITA spec will require an algorithm that is sufficiently precise that an implementer can build a conforming application using ONLY the content of the LwDITA specification.

### Comment by carloseviapuerto on 30 January 2017

The following text came from Mark G and Michael P, with some edits of mine for consistency in note's tone and voice.

LwDITA, through its three authoring formats, simplifies the authoring experience and reduces the dependence on XML structures and processes. As a LwDITA author embraces the core benefits of DITA, considering element and topic specialization would be a logical next step. However, the specialization recommended in DITA 1.3 would represent an unnecessary barrier for an author who came to DITA through LwDITA's simplified authoring formats. LwDITA is not just about creating simple formats that will feed into an existing full DITA implementation. LwDITA also helps to simplify DITA's specialization feature. To this effect, LwDITA introduces a small number of new elements and attributes that enable a simplified method for specialization. This is the best way to promote a lightweight specialization mechanism, and help promote LwDITA itself.

### Comment by carloseviapuerto

From Mark to consider later: Because LwDITA is a standard that spans multiple formats, coordination of the same specialization across formats poses some unique challenges compared to full DITA. While they could be manually coordinated and synchronized, there are clear advantages to a more centralized approach that uses a common template in which a common type definition can be designed and maintained for application to all formats in use by a project. The template can centralize and coordinate not only the core structural elements of the content type, but related content such as the headers for specialized sections, documentation for users, and even authoring prompts for use in editing software. The template becomes a single source

for many of the assets that need to be maintained in common for a content type, not only within a single format but across multiple formats.

Not all LwDITA formats will support specialization to the same degree: for example, XDITA and HDITA can easily express specialized relationships for any content element using attributes. However, because Markdown has no tags, it cannot always reliably assign attributes to particular elements within a piece of content: so specialization within MDITA may be limited to a subset of use cases (for example, section-level specialization) using HDITA syntax.

For a complete list of LwDITA's new elements and attributes that enable the template-based specialization mechanism, see [New specialization attributes and elements \(13\)](#).

## 5.1 Example of template-based specialization

LwDITA's template-based specialization model gives authors the power to design new topic types using a handful of new attributes and elements. A template created in XDITA can generate new topic valid topic types in XDITA and HDITA.

The process of designing and deploying a template for specialization in LwDITA consists of the following stages:

1. Create an instance of a valid XDITA topic.

For example, a hypothetical project manager wants to create, using XDITA syntax, a specialized topic type to capture meeting notes, and her XDITA topic template would start as follows:

```
<topic id="notes1">
<title>Meeting Notes Template</title>
</topic>
```

2. Add markup that defines the specialization's content model. The markup includes XDITA elements and attributes, highlighted in bold, specifically designed for defining specializations.

For example:

### Comment by Tim Grantham

It's obviously very important that this example is perfect (and a typical use case), especially because it is used later in the topic to explain the content model generated from the template. As a new reader, I think I would have questions as soon as I read the example: e.g. Why does this example define specialized elements that have the same names as existing DITA elements (e.g. "category", "copyright"). How do I define how many times a specialized element can occur? The example should also include use of @specrole.

```
<topic id="notes1" specname="meeting-notes">
 <title specname="meeting-note">Meeting Notes Template</
title>
 <prolog>
 <data specname="date" specrole="prompt" value="date
goes here"/>
 </prolog>
 <body specname="meeting-notes-body">
 <section specname="todos" specmodel="sequence">
```

```
<title specrole="generated">To dos</title>
 <p specrole="doc">Use the todos element to organize
a list of things you need to do</p>

</section>
</body>
</topic>
```

**Note:** Just as with standard XDITA or DITA content, an author can reuse content from instances of templates with mechanisms such as @conref and @keyref.

3. Generate the following XDITA topic:

**Comment by carloseviapuerto on 1 Feb 2017**

This part needs love: how is the process without a specific tool? Generate... how???

```
<meeting-notes id="notes1">
 <meeting-note>Meeting Notes Template</meeting-note>
 <prolog>
 <date></date>
 </prolog>
 <meeting-notes-body>
 <title>To-dos</title>
 <p>Use the to-dos element to organize a list of things
you need to do</p>

 <p>Write topic about lightbulb replacement</
p>
 <p>Contact SME about remote's short circuit</
p>

 </meeting-notes-body>
</meeting-notes>
```

4. Generate, with the same template, the following HDITA topic:

```
<meta name="date" content="">
<article data-hd-class="meeting-notes" id="notes1">
 <h1 data-hd-class="meeting-note">Meeting Notes Template</
h1>
 <section data-hd-class="meeting-notes-body">
 <h2>To-dos</h2>
 <p>Use the to-dos element to organize a list of things
you need to do</p>

 <p>Write topic about lightbulb replacement</p></
li>
 <p>Contact SME about remote's short circuit</p></
li>

 </section>
</article>
```

## 5.2 Defining specialized elements

The combination of @specname and @specmodel values on a template element defines a new element specialized from the template as follows:

- The name of the element comes from the value of @specname.
- The type of content model for the element comes from the value for @specmodel:
  - "sequence" for a sequence of child elements (each of which will be allowed only once and in only one order)
  - "choice" for a set of choices of child elements (which will be allowed in any number and order)
  - "inherit" for a set of unspecialized child elements that conform to the content model of the specialized element

Each child element can have an @importance value set on it:

- "optional" on a child element in a sequence, so that the element is not required to be present in the authored document

**Comment by Tim Grantham**

But does this mean it can be present more than once or only once? This should be made explicit.

- "required" on a child element in a choice group, so that the element is required to be present in the authored document

**Comment by Tim Grantham**

I suggest that it should be explicitly stated that "required" on an element in a choice group means at least one occurrence.

Multiple occurrences of an element within a sequence can be defined by using multiple occurrences of the element in the template as a cue. For example, to define a content model for <agendalist> of a required <a-intro> followed by one or more <a-item>, use the following markup:

```
<ul specname="agendalist" specmodel="sequence">
 <li specname="a-intro"/>
 <li specname="a-item"/>
 <li specname="a-item importance="optional"/>

```

**Comment by Tim Grantham**

This produces the expected result only if the value "optional" on an element means that the element can occur any number of times.

**Comment by Tim Grantham**

Should we give examples of content models that *cannot* be defined with this version of the specialization markup?

## *Defining content for deliverables other than specialization schemas*

**Comment by carloseviapuerto**  
*I am not sure I understand this section's title*

Templates can use one or more of the following values for @specrole to define content for such deliverables as documentation of the specialization, and online editors or templates that authors can use to create content with the specialization:

- "doc" identifies the element as a container of description of the specialization

**Comment by Tim Grantham**

Is this value primarily intended to be used to insert guidance for authors into a generated authoring template? Is the description of the element or some other part of the specialization? Does the element still intended to appear in the generated schema?

- "generated" identifies the element as a container of fixed content

**Comment by Tim Grantham**

Meaning that the content must appear in any instance of the topic? Or is it primarily intended for use in a generated authoring template to pre-populate the element?

- "???" sets the element to non-editable by authors

**Comment by Tim Grantham**

how is this different from "generated"? Or is it used in combination with "generated"?

- "???" identifies the element as the container of an editor prompt

**Comment by Tim Grantham**

Is the element still part of a generated schema? Or is it intended solely for generation of an authoring template?

- "???" identifies the element as used for content modeling purposes only

**Comment by Tim Grantham**

What does "content modeling purposes only" mean? That it can't be used for generating authoring templates?

**Comment by Tim Grantham**  
This should be fleshed out with examples.

## 6 Lightweight DITA tools

Several tools already exist to support organizations who want to explore using LwDITA.

To be covered here:

- Plug-in created and maintained by Jarno Elovirta: <https://github.com/jelovirt/dita-ot-markdown>
- Tool in-progress by Tim Grantham for the Lightweight DITA subcommittee
- oXygen XML Author 18.1

The DITA Technical Committee expects that the release of Lightweight DITA as an OASIS standard will lead to a rapid increase in the number of commercial and open-source tools that provide support for LwDITA.

## Appendix A LwDITA elements and attributes

This section lists the elements and attributes that are available in LwDITA.

### Appendix A.1 DITA 1.3 elements in LwDITA

This topic lists the DITA 1.3 elements that are available in LwDITA. It also lists the HDITA and MDITA equivalents.

**Comment by Kristen J Eberlein on 21 December 2016**

The following table is based on the DTDs in the subcommittee GitHub repository. It does not include `<object>` and `<param>`. Is the plan that they are to be used as the specialization basis for the multimedia elements but NOT to be available in Lightweight DITA?

I also added `<desc>`; content is needed for the HDITA and MDITA equivalents.

| Component       | XDITA                      | HDITA                                 | MDITA                                                                                                                                                                                                      |
|-----------------|----------------------------|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Alternate text  | <code>&lt;alt&gt;</code>   | Attribute on <code>&lt;img&gt;</code> | [text]                                                                                                                                                                                                     |
| Audio           | <code>&lt;audio&gt;</code> | <code>&lt;audio&gt;</code>            | <code>&lt;audio&gt;</code> in HDITA syntax<br><b>Comment by carloseviapuerto on 17 January 2017</b><br>Should audio and video be here? They are on the next table                                          |
| Body            | <code>&lt;body&gt;</code>  | <code>&lt;body&gt;</code>             | Not applicable                                                                                                                                                                                             |
| Bold            | <code>&lt;b&gt;</code>     | <code>&lt;strong&gt;</code>           | ** or __                                                                                                                                                                                                   |
| Cross reference | <code>&lt;xref&gt;</code>  | <code>&lt;href&gt;</code>             | [link](/URI "title")                                                                                                                                                                                       |
| Data            | <code>&lt;data&gt;</code>  | <code>&lt;meta&gt;</code>             | Any variables declared in a YAML front matter header. The front matter must be the first thing in the file and must be set between triple-dashed lines.<br><b>Comment by Carlos Evia on 5 January 2017</b> |

| Component              | XDITA       | HDITA                                                                               | MDITA                                                     |
|------------------------|-------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------|
|                        |             |                                                                                     | Need to specify this...<br>need rules for YAML<br>headers |
| Definition description | <dd>        | <dd>                                                                                | <dd> in HDITA syntax                                      |
| Definition list entry  | <dlentry>   | Not applicable                                                                      | Not applicable                                            |
| Definition term        | <dt>        | <dt>                                                                                | <dt> in HDITA syntax                                      |
| Definition list        | <dl>        | <dl>                                                                                | <dl> in HDITA syntax                                      |
| Description            | <desc>      | <caption><br>in <table>;<br><figcaption><br>in <figure>; not<br>applicable in links | Not applicable                                            |
| Figure                 | <fig>       | <figure>                                                                            | Not applicable                                            |
| Footnote               | <fn>        | @data-hd-<br>class="fn"                                                             | @data-hd-<br>class="fn" in HDITA<br>syntax                |
| Image                  | <image>     | <img>                                                                               | ![alt text for an<br>image](images/<br>image_name.jpg)    |
| Italics                | <i>         | <em>                                                                                | * or _                                                    |
| List item              | <li>        | <li>                                                                                | ' -, +, or * for ul, and<br>0-9 and . or ) for ol         |
| Map                    | <map>       | <nav>                                                                               | Not applicable                                            |
| Note                   | <note>      | <p data-hd-<br>class="note">                                                        | Optional with direct<br>HDITA element                     |
| Ordered list           | <ol>        | <ol>                                                                                | See list item                                             |
| Paragraph              | <p>         | <p>                                                                                 | Two carriage returns                                      |
| Phrase                 | <ph>        | <span>                                                                              | <span> in HDITA<br>syntax                                 |
| Preformatted text      | <pre>       | <pre>                                                                               | ``text``                                                  |
| Prolog                 | <prolog>    | <meta>                                                                              | Provided in YAML<br>header                                |
| Section                | <section>   | <section>                                                                           | ##                                                        |
| Short description      | <shortdesc> | <p data-hd-<br>class="shortdesc">                                                   | <p data-hd-<br>class="shortdesc"><br>in HDITA syntax      |



| Component           | XDITA         | HDITA                              | MDITA                                                                                                                                                                                              |
|---------------------|---------------|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     |               |                                    | <b>Comment by Carlos Evia on 5 January 2017</b><br>When we recommend using raw HTML in Markdown, should we say "optional" instead of "not applicable or"?                                          |
| Table               | <simpletable> | <table>                            | Tables in MDITA follow the GitHub Flavored Markdown syntax: "You can create tables with pipes   and hyphens -. Hyphens are used to create each column's header, while pipes separate each column." |
| Simple table entry  | <stentry>     | <td>                               | See Table                                                                                                                                                                                          |
| Simple table header | <sthead>      | <th>                               | See Table                                                                                                                                                                                          |
| Simple table row    | <strow>       | <tr>                               | See Table                                                                                                                                                                                          |
| Subscript           | <sub>         | <sub>                              | <sub> in HDITA syntax                                                                                                                                                                              |
| Superscript         | <sup>         | <sup>                              | <sup> in HDITA syntax                                                                                                                                                                              |
| Title               | <title>       | <h1> for topic<br><h2> for section | # for topic<br>## for section                                                                                                                                                                      |
| Topic               | <topic>       | <article>                          | Not applicable                                                                                                                                                                                     |
| Underline           | <u>           | Not applicable                     | Not applicable                                                                                                                                                                                     |
| Unordered list      | <ul>          | <ul>                               | See List item                                                                                                                                                                                      |
| Video               | <video>       | <video>                            | <video> in HDITA syntax                                                                                                                                                                            |

## Appendix A.2 New multimedia elements

This topic lists the new multimedia elements that are part of LwDITA.

**Comment by Kristen J Eberlein on 21 December 2016**

Content needed for some rows.

| Component | XDITA      | HDITA                           | MDITA                                           |
|-----------|------------|---------------------------------|-------------------------------------------------|
| Audio     | <audio>    | <audio>                         | <audio> in HDITA syntax                         |
| Controls  | <controls> | @controls in <audio> or <video> | @controls in <audio> or <video> in HDITA syntax |
| Fallback  | <fallback> | <source>                        | <source> in HDITA syntax                        |
| Poster    | <poster>   | @poster in <video>              | @poster in <video> in HDITA syntax              |
| Source    | <source>   | <source>                        | <source> in HDITA syntax                        |
| Track     | <track>    | @track in <audio> or <video>    | @track in <audio> or <video> in HDITA syntax    |
| Video     | <video>    | <video>                         | <video> in HDITA syntax                         |

### Appendix A.3 DITA 1.3 attributes in LwDITA

This topic lists the DITA 1.3 attributes that are available in LwDITA. It also lists their HDITA and MDITA equivalents.

#### Comment by Kristen J Eberlein on 29 December 2016

The following table is based on the DTDs in the subcommittee GitHub repository.

Content is needed for the HDITA and MDITA equivalents.

#### Comment by Carlos Evia on 5 January 2017

We need to be very careful when proposing attributes for MDITA. Attribute-heavy Markdown is sacrilegious.

| Component         | XDITA    | HDITA           | MDITA                           |
|-------------------|----------|-----------------|---------------------------------|
| Content reference | @conref  | @data-hd-conref | @data-hd-conref in HDITA syntax |
| Direction         | @dir     | @dir            | @dir in HDITA syntax            |
| Expanse           | @expanse | Not applicable  | Not applicable                  |
| Frame             | @frame   | Not applicable  | Not applicable                  |

| <b>Component</b> | <b>XDITA</b> | <b>HDITA</b>        | <b>MDITA</b>                                                                                             |
|------------------|--------------|---------------------|----------------------------------------------------------------------------------------------------------|
| Identifier       | @id          | @id                 | For a topic: "id" attribute in YAML front matter header; for all other elements, @id in HDITA syntax     |
| Importance       | @importance  | @data-hd-importance | @data-hd-importance in HDITA syntax                                                                      |
| Key reference    | @keyref      | @data-hd-keyref     | @data-hd-keyref in HDITA syntax                                                                          |
| Language         | @xml:lang    | @lang               | For a topic: "lang" attribute in YAML front matter header; for all other elements, @lang in HDITA syntax |
| Output class     | @outputclass | @class              | @class in HDITA syntax                                                                                   |
| Props            | @props       | @data-hd-props      | @data-hd-props in HDITA syntax                                                                           |
| Scale            | @scale       | Not applicable      | Not applicable                                                                                           |
| Translate        | @translate   | @translate          | @translate in HDITA syntax                                                                               |
| Type             | @type        | @data-hd-type       | @data-hd-type in HDITA syntax                                                                            |

## Appendix B Acknowledgments

The following individuals participated in the creation of this document and are gratefully acknowledged.

Robert D. Anderson, IBM  
Deb Bissantz, Healthwise  
Stan Doherty, Individual member  
Kristen James Eberlein, Eberlein Consulting LLC  
Nancy Harrison, Individual member  
Carlos Evia, Virginia Tech  
Mark Giffin, Individual member  
Tim Grantham, Individual member  
Ullakaisa Kalander, Citec  
Eliot Kimber, Individual member  
Keith Schengli-Roberts, IXIASOFT  
Michael Priestley, IBM

In addition, the OASIS DITA Technical Committee also would like to recognize the following people for their insights and support:

Kevin Lewis, Virginia Tech

## Appendix C Revision history

The following table contains information about revisions to this document.

| Revision | Date                    | Editor                 | Description of changes                                                                                                                                                                                                                                                                 |
|----------|-------------------------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01       | 5 November 2016         | Carlos Evia            | Created stub files for working draft.                                                                                                                                                                                                                                                  |
| 02       | 17 November 2016        | Carlos Evia            | Updates to structure of working draft.                                                                                                                                                                                                                                                 |
| 03       | 21 and 22 November 2016 | Carlos Evia            | Added content, examples, and information about YAML.                                                                                                                                                                                                                                   |
| 04       | 24 November 2016        | Kristen James Eberlein | <ul style="list-style-type: none"><li>• Added table to revision history</li><li>• Corrected front matter metadata</li><li>• Added terminology topic</li><li>• General edits for clarity and adherence to IBM style</li><li>• Reworked XDITA, HDITA, and MDITA topic clusters</li></ul> |
| 05       | 30 November 2016        | Kristen James Eberlein | <ul style="list-style-type: none"><li>• Updated cover page metadata to match OASIS template</li><li>• General edits for clarity and adherence to IBM style</li><li>• General reorganization</li></ul>                                                                                  |
| 06       | 01 December 2016        | Kristen James Eberlein | <ul style="list-style-type: none"><li>• Added content to Appendix A</li><li>• Added draft comments throughout</li><li>• Added items to "References" topic</li></ul>                                                                                                                    |
| 07       | 01 December 2016        | Kristen James Eberlein | <ul style="list-style-type: none"><li>• Added initial content to "Stricter content model" topic</li><li>• Added initial content to "Subset of reuse mechanisms" topic</li></ul>                                                                                                        |
| 08       | 05 December 2016        | Carlos Evia            | Added initial examples for maps in XDITA, HDITA, and MDITA                                                                                                                                                                                                                             |
| 09       | 06 December 2016        | Kristen James Eberlein | Generated working draft 01                                                                                                                                                                                                                                                             |
| 10       | 15 December 2016        | Kristen James Eberlein | <ul style="list-style-type: none"><li>• Replaced <i>authoring mode</i> with <i>authoring format</i></li></ul>                                                                                                                                                                          |

| Revision | Date             | Editor                 | Description of changes                                                                                                                                                                                                                                                       |
|----------|------------------|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |                  |                        | <ul style="list-style-type: none"> <li>Updated chapter three: "Lightweight DITA design"</li> </ul>                                                                                                                                                                           |
| 11       | 15 December 2016 | Carlos Evia            | <ul style="list-style-type: none"> <li>Added xref for Evia-Priestley article</li> <li>Cleaned some sections that implied XDITA equals LwDITA</li> </ul>                                                                                                                      |
| 12       | 15 December 2016 | Carlos Evia            | Improved consistency of LwDITA acronym usage across topics and chapters                                                                                                                                                                                                      |
| 13       | 16 December 2016 | Carlos Evia            | Cleaned some short descriptions and added content to authoring formats                                                                                                                                                                                                       |
| 14       | 16 December 2016 | Kristen James Eberlein | <ul style="list-style-type: none"> <li>Updated "Acknowledgements" to include everyone who attended the call in 14 December 2016"</li> <li>Updated audience for HDITA</li> </ul>                                                                                              |
| 15       | 21 December 2016 | Kristen James Eberlein | <ul style="list-style-type: none"> <li>Updated references to list blogs and PDFs of conference session slide decks</li> <li>Updated "Subset of DITA 1.3 elements"</li> <li>Updated appendix A, "Lightweight DITA elements and attributes"</li> </ul>                         |
| 16       | 29 December 2016 | Kristen James Eberlein | <ul style="list-style-type: none"> <li>Edits to appendix A</li> <li>Generated working draft #2</li> </ul>                                                                                                                                                                    |
| 17       | 30 December 2017 | Kristen James Eberlein | <p>Response to feedback from Deb Bissantz, Healthwise:</p> <ul style="list-style-type: none"> <li>Added &lt;u&gt; to 3.2, "Stricter content model"</li> <li>Changed 2.1, "Simplified model" to "Simplified structure"</li> <li>Edited 4.2.1, "Audience for HDITA"</li> </ul> |
| 18       | 5 January 2017   | Carlos Evia            | <ul style="list-style-type: none"> <li>Commented out the specialization section from map (it will be the main topic</li> </ul>                                                                                                                                               |

| Revision | Date            | Editor                 | Description of changes                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------|-----------------|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |                 |                        | of a future committee note or publication) <ul style="list-style-type: none"> <li>Updated tables of elements and attributes to reflect input from LwDITA's syntax taskforce</li> <li>Commented out mentions of the specialization mechanism as an initial LwDITA component.</li> </ul>                                                                                                                                                    |
| 19       | 9 January 2017  | Kristen James Eberlein | <ul style="list-style-type: none"> <li>Corrected date in revision history</li> <li>Added back specialization topics</li> <li>Corrected typos in draft comments; removed outdated draft comments</li> <li>Updated acknowledgements to include Deb Bissantz, Healthwise</li> </ul>                                                                                                                                                          |
| 20       | 9 January 2017  | Kristen James Eberlein | Response to feedback from Ullakaisa Kalander, Citec: <ul style="list-style-type: none"> <li>Added &lt;note&gt; to 3.1, "Subset of DITA 1.3 elements"</li> <li>Added draft comments with feedback from Citec</li> <li>Added @type to Appendix A.3, "DITA 1.3 attributes in Lightweight DITA"</li> <li>Updated acknowledgements to include Ullakaisa Kalander, Citec</li> <li>Updated "Notices" to have a copyright date of 2017</li> </ul> |
| 21       | 9 January 2017  | Carlos Evia            | Added raw draft paragraphs to capture feedback from SC's meeting and minutes of note call from December.                                                                                                                                                                                                                                                                                                                                  |
| 22       | 17 January 2017 | Carlos Evia            | <ul style="list-style-type: none"> <li>Added content for multimedia elements</li> <li>Improved LwDITA map topic</li> <li>Standardized use of LwDITA in document</li> <li>Drafted rationale for specialization mechanism</li> </ul>                                                                                                                                                                                                        |

| Revision | Date            | Editor                 | Description of changes                                                                                                                                                   |
|----------|-----------------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |                 |                        | <ul style="list-style-type: none"> <li>Added content to tables in appendixes</li> <li>Specified "rules" for YAML headers in MDITA</li> </ul>                             |
| 23       | 19 January 2017 | Carlos Evia            | Added content about compatibility of authoring modes.                                                                                                                    |
| 24       | 23 January 2017 | Carlos Evia            | Updated attributes and elements appendixes                                                                                                                               |
| 25       | 23 January 2017 | Kristen James Eberlein | Generated working draft #3                                                                                                                                               |
| 26       | 23 January 2017 | Carlos Evia            | Added content explaining multimedia elements                                                                                                                             |
| 27       | 24 January 2017 | Carlos Evia            | Updated content model example to follow note's theme of light bulbs                                                                                                      |
| 28       | 24 January 2017 | Carlos Evia            | <ul style="list-style-type: none"> <li>Cleaned multimedia elements topic</li> <li>Added stubs for new 4.4 section on cross-format LwDITA content and examples</li> </ul> |
| 29       | 25 January 2017 | Carlos Evia            | Added draft of cross-format topics                                                                                                                                       |
| 30       | 25 January 2017 | Carlos Evia            | Updated the cross-format content example                                                                                                                                 |
| 31       | 30 January 2017 | Carlos Evia            | Added specialization content from Mark G and Michael P                                                                                                                   |
| 32       | 30 January 2017 | Carlos Evia            | Incorporated feedback from John H                                                                                                                                        |
| 33       | 30 January 2017 | Carlos Evia            | Edits after reading most recent draft                                                                                                                                    |
| 34       | 30 January 2017 | Carlos Evia            | Improved consistency in tables of elements and attributes                                                                                                                |
| 35       | 30 January 2017 | Carlos Evia            | Mapped <desc> to HDITA (not applicable in MDITA)                                                                                                                         |
| 36       | 31 January 2017 | Carlos Evia            | Cleaned specialization introductory topic                                                                                                                                |
| 37       | 1 February 2017 | Carlos Evia            | Added specialization example                                                                                                                                             |
| 38       | 1 February 2017 | Carlos Evia            | Added Tim G to contributors and incorporated Tim's content on specialization                                                                                             |