Review R: Introduction
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1 Introduction

The Darwin Information Typing Architecture (DITA) specification defines a set of document types for authoring and aggregating topic-oriented information, as well as a set of mechanisms for combining, extending, and constraining document types.

1.1 Terminology

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMEND", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [RFC 2119] and [RFC8174] when, and only when, they appear in all capitals, as shown here.

The DITA specification uses <keyword> elements with the @outputclass attribute set to "RFC-2119" for these key words. In general, normative statements that use such key words pertain to what is needed for interoperability.

These key words are rendered with bold formatting. These normative statements are indicated visually in the rendered specification by blue lines at the left and right of the statement:

if the root element of a map or a top-level topic has no value for the @xml:lang attribute, a processor SHOULD assume a default value. The default value of the processor can be either fixed, configurable, or derived from the content itself, such as the @xml:lang attribute on the root map.

In addition, a hyperlink is rendered to the left of the statement that contains the normative term. The link is to a generated appendix that groups all the normative statements that appear in the specification.

1.2 References

This section contains the normative and informative references that are used in this document.

While any hyperlinks included in this section were valid at the time of publication, OASIS cannot guarantee their long-term validity.

1.2.1 Normative references

The following documents are referenced in such a way that some or all of their content constitutes requirements of this document.


1.2.2 Informative references

The following referenced documents are not required for the application of this document but might assist the reader with regard to a particular subject area.

[ANSI Z535.6]

[HTML5]

[ISO 8601]

[ISO/IEC 19757-3]

[Namespaces in XML 1.0]

[Namespaces in XML 1.1]

[OASIS Table Model]

[RELAX NG]

[RELAX NG Compact Syntax]

[RELAX NG DTD Compatibility]
1.3 Normative versions of DITA grammar files

DITA document types and vocabulary modules can be constructed using several XML-document grammar mechanisms. The DITA specification provides coding requirements for DTDs and RNG, and it also includes grammar files that are constructed using those mechanisms. The RNG grammar files are normative.

The DITA Technical Committee chose the RELAX NG XML syntax for the following reasons:

**Easy use of foreign markup**

The DITA grammar files maintained by OASIS depend on this feature of RELAX NG in order to capture metadata about document-type shells and modules.

**Comment by Kristen J Eberlein on 21 August 2022**

Do we want to remove the preceding paragraph? While this was true for DITA 1.3, when we were generating DTD and XSD from the RNG grammar files, we hand edited the DTD for DITA 2.0.

**Disposition: Unassigned**

The foreign vocabulary feature can also be used to include Schematron rules directly in RELAX NG grammars. Schematron rules can check for patterns that either are not expressible with RELAX NG directly or that would be difficult to express.

**RELAX NG <div> element**

This general grouping element allows for arbitrary organization and grouping of patterns within grammar documents. Such grouping tends to make the grammar documents easier to work with, especially in XML-aware editors.

**Capability of expressing precise restrictions**

RELAX NG is capable of expressing constraints that are more precise than is possible with DTDs. For example, RELAX NG patterns can be context specific such that the same element type can allow different content or attributes in different contexts. However, the grammar files that are provided by the OASIS DITA Technical Committee do not use any features of RELAX NG that cannot be translated into equivalent DTD constructs.

The DITA use of RELAX NG depends on the RELAX NG DTD Compatibility specification, which provides a mechanism for defining default-attribute values and embedded documentation. Processors that use RELAX NG for DITA documents in which required attributes (for example, the @class attribute) are not explicitly present must implement the DTD compatibility specification in order to get default attribute values.

1.4 Formatting conventions in the HTML5 version of the specification

Given the size and complexity of the specification, it is not generated as a single HTML5 file. Instead, each DITA topic is rendered as a separate HTML5 file.

The HTML5 version of the specification uses certain formatting conventions to aid readers in navigating through the specification and locating material easily: Link previews and navigation links.
1.4.1 Link previews

The DITA specification uses the content of the DITA `<shortdesc>` element to provide link previews for its readers. These link previews are visually highlighted by a colored background.

The link previews serve as enhanced navigation aids, enabling readers to more easily locate content. This usability enhancement is one of the ways in which the specification illustrates the capabilities of DITA and exemplifies DITA best practices.

The following screen capture illustrates how link previews are displayed in the HTML5 version of the specification:

**Figure 1: Link previews**

1.4.2 Navigation links

To ease readers in navigating from one topic to another, each HTML5 file generated by a DITA topic contains navigation links at the bottom.

**Parent topic**
- Takes readers to the parent topic, which is the topic referenced by the closest topic in the containment hierarchy

**Previous topic**
- Takes readers to the previous topic in the reading sequence

**Next topic**
- Takes readers to the next topic in the reading sequence

**Return to main page**
- Takes readers to the place in the table of contents for the current topic in the reading sequence

The following screen capture illustrates how navigation links are displayed in the HTML5 version of the specification:

**Figure 2: Navigation links**

When readers hover over the navigation links, the short description of the DITA topic is also displayed.
1.5 About the specification source

The DITA specification is authored in DITA. It is a complex document that uses many DITA features, including key references (keyrefs), content references (conrefs), and controlled values set in a subject scheme map.

The source files for the DITA specification are managed in a GitHub repository that is maintained by OASIS; they also can be downloaded from OASIS.

The DITA Technical Committee used the following applications to work with the DITA source:

- Antenna House Formatter
- DITA Open Toolkit
- Congility Content Server
- Oxygen Content Fusion
- Oxygen XML Editor
- XMetaL Author Enterprise
A Aggregated RFC-2119 statements

This appendix contains all the normative statements from the DITA 2.0 specification. They are aggregated here for convenience in this non-normative appendix.
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