

Document Markup Language (DML) Specification 1.0

Abstract

This specification defines the Document Markup Language (DML), a markup language for books, articles, notes and other type of documents. DML is normatively available as a [RELAX NG](#) (Appendix A, pg. 17) schema with additional [Schematron](#) (Appendix A, pg. 17) assertions.

Conventions

The keywords *must*, *must not*, *required*, *shall*, *shall not*, *should*, *should not*, *recommended*, *may*, and *optional*, when emphasized, are to be interpreted as described in [IETF RFC 2119](#) (Appendix A, pg. 17).

- A `monospaced` font is used for code, elements, attributes, tags and value literals.
- An *italic monospaced* font is used for variables.

Element:

When an element (node with type `element`) is mentioned in the text, always has a preceding slash (/) and optionally has an associated `attribute` (pg. 1) as a predicate. [Element EBNF definition](#) (pg. 2).

Notation for the `/section` element

```
/section  
/section[@role]
```

Attribute:

When an attribute (node with type `attribute`) is mentioned in the text, always has a preceding at-sign (@) and optionally has an associated value. [Attribute EBNF definition](#) (pg. 2).

Notation for the @role attribute

```
@role
@role="chapter"
```

Tag:

When a tag is mentioned in the text, always has a preceding less-than symbol (<) and a following greater-than symbol (>). [Tag EBNF definition](#) (pg. 2).

When a tag is mentioned with some omitted attributes it has an ellipsis symbol (...) preceding greater-than symbol (>).

Notation for the start tag <section ...>

```
<section role="chapter" ...>
```

Any element or attribute can be modified by a quantifier modifier as follows:

?

Zero or one time.

+

One or more times.

*

Zero or more times.

Therefore, to indicate that an “status” attribute is optional the expression will be `@status?`. Or, if a “section” element is repeatable the expression will be `/section+`.

EBNF^[1] definitions

(Draft) TODO: define dml-xpath syntax used in children, attribute and parent definitions.

- Element ::= '/' Name ('[' Attribute ' ') *
- Attribute ::= '@' Name ('=' ' ' Value ' ') ?
- Tag ::= '<' Name (S Name '=' ' ' Value ' ') * S? '...' ? '/' ? '>'
- Name ::= ([A-Za-z] + ':') ? [A-Za-z_] [A-Za-z0-9_-.] *
- Value ::= [^<>] +
- S ::= (#x20 | #x9 | #xD | #xA) +

^[1] [W3C notation](http://www.w3.org/TR/REC-xml/#sec-notation) (http://www.w3.org/TR/REC-xml/#sec-notation)

Status of this document

This is a *draft* and it may change at any time basis in response to comments and as a general part of its development process.

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1. Elements

(Draft) Add /listing for program listing? in cdm!

1.1. The `/abbr` element

The `/abbr` element represents an abbreviation or acronym.

Status

Released

Flow

Inline (Section 4.3, pg. 16)

Children

```
( $inline[not( /abbr )] | text() )+
```

Attributes

```
( $core.attrs* | $meta.attrs* )
```

Parents

```
( $block | $inline[not( /abbr )] )
```

The `@content` attribute (Section 3.2, pg. 15) may be used to provide an expansion of the abbreviation.

The `@about` attribute (Section 3.1, pg. 15) may be used to provide a resource which provide the expansion form.

`@content` and `@about` attributes are mutually exclusive.

Example 1.1-1: `/abbr` element with inline expansion

```
<p>Example of <abbr content="Document Markup Language">DML</abbr>'s /abbr  
element.</p>
```

Example 1.1-2: `/abbr` element with remote expansion

```
<p>Example of <abbr about="http://example.org/glossary#dml">DML</abbr>'s /abbr  
element.</p>
```

(Draft)

1.2. The `/cell` element

...?

1.3. The `/dml` element

The `/dml` element is the root element for a DML document.

Status

Released

Flow

[Block](#) (Section 4.1, pg. 16)

Children

```
( /title, $block[not( /title )]+ )  
(: this expression is more accurated but necessary? :)  
( /title, $block[not( /title | preceding-sibling::/section )]+, /section* )
```

Attributes

```
( $core.attrs* )
```

(Draft) TODO: examples

1.4. The `/em` element

The `/em` element represents an stressed text.

Status

Released

Flow

[Inline](#) (Section 4.3, pg. 16)

Children

```
( $inline | text() )+
```

Attributes

```
( $core.attrs* | $meta.attrs* | @role? )
```

Parents

(\$block | \$inline)

The `@role` attribute *may* be used to provide more stressed text with `strong` value.

Example 1.4-1: Usage of `/em` element

```
<p>
  <em>Lorem ipsum</em> dolor sit amet, consectetur adipisicing elit, sed do <em
    role="strong">eiusmod tempor incididunt ut labore</em> et dolore magna aliqua.
</p>
```

1.5. The `/example` element

The `/example` element represents an example.

Status

Released

Flow

[Block](#) (Section 4.1, pg. 16)

Children

(/title?, \$block[not(/example)]+)

Attributes

(\$core.attrs* | \$meta.attrs*)

Parents

(/dml | /note | /section)

Example 1.5-1: Usage of `/example` element

```
<example xml:id="example-identifier">
  <title>Title of the Lorem Ipsum example</title>
  <p>Lorem ipsum dolor sit amet...</p>
</example>
```

1.6. The `/figure` element

The `/figure` element is a figure container; usually it contains an illustration or something to show graphically.

Status

Released

Flow

[Block](#) (Section 4.1, pg. 16)

Children

```
( /title?, $block[not( /example | /figure )]+ )
```

Attributes

```
( $core.attrs* | $meta.attrs* )
```

Parents

```
( /dml | /example | /note | /section )
```

Example 1.6-1: Usage of `/figure` element

```
<figure xml:id="figure-identifier">
  <title>It shown an illustration throught a figure element</title>
  <object src="path/to/illustration"/>
</figure>
```

1.7. The `/group` element

The `/group` element is a generic table cell container.

Status

Released

Flow

[Table](#) (Section 4.2, pg. 16)

Children

```
( /group+ | /title+ | ( /title?, /cell+ ) )
```


Attributes

```
( $core.attrs* | $meta.attrs* | @role? )
```

Parents

```
( /group | /table )
```

The `@role` attribute *may* be used to provide a form to refine the `/group` element meaning. Allowed values are:

`header`

A header table group. Table header *must* be the first child of a `/table` element.

`footer`

A footer table group. Table footer *must* be child of a `/table` element.

1.8. The `/item` element

The `/item` element is a list item container.

Status

Released

Flow

[Block](#) (Section 4.1, pg. 16)

Children

```
( /title?, $block[not( /item | /title )]+ )
```

Attributes

```
( $core.attrs* | $meta.attrs* | @role? )
```

Parents

```
( /list )
```

(Draft) The functionality of `/item[@role="header"]` is too specific for DML? maybe yes. Reevaluate.

The `@role` attribute *may* be used to provide a form to refine the `/item` element when is the last child of a `/list[@role="leaded"]` element. The only possible value is `footer`.

(Draft)

1.9. The `/list` element

...?

(Draft)

1.10. The `/metadata` element

...?

1.11. The `/note` element

The `/note` element represents a generic document note or annotation. It *may* be used as root element in [\(Review\) DML islands](#) in non-DML documents.

Status

Draft

Flow

[Block](#) (Section 4.1, pg. 16)

Children

```
( ( /title?, $block[not( /title | /note )]+ ) | ( $inline | text() )+ )
```

Attributes

```
( $core.attrs* | $meta.attrs* | @role? )
```

Parents

```
( /dml | /object[parent::$block] | /section )
```

[\(Review\)](#) The `@role` attribute may be used to provide a form to refine the `/note` element meaning. Allowed values are:

`tip`

A suggestion, tip or trick.

`warning`

An admonition note.

`sidebar`

A note that is isolated from the main narrative flow.

(Draft) /section[@role="aside"] or /note[@role="aside"] or @role="sidebar" ...?

footnote

(Review) A footnote. Footnotes in paged medias usually occur at the end of the page which cite it.

(Draft) TODO: examples

(Draft)

1.12. The /object element

...?

(Draft)

1.13. The /p element

...?

(Draft)

1.14. The /quote element

...?

1.15. The /section element

The /section element represents a generic document section.

Status

Draft

Flow

Block (Section 4.1, pg. 16)

Children

```
( /title, $block[not( /title )]+ )
```

Attributes

```
( $core.attrs* | $meta.attrs* | @role? )
```

Parents

```
( /dml | /note | /object[parent::$block] | /quote[parent::$block] | /section )
```

(Review) The `@role` attribute *may* be used to provide a form to refine the `/section` element meaning. Allowed values are:

`abstract`

(Review) A summary or statement of the contents of a document.

`part`

A part of a book. Parts usually group related chapters in a book.

`chapter`

(Review) A main division of a book.

`appendix`

An appendix in a document. Appendixes usually occur at the end of a document.

(Draft) `header`

(Draft) description ...?

(Draft) `footer`

(Draft) description ...?

(Draft) `toc`

(Draft) description ...?

`license`

(Draft) description ...?

(Draft) TODO: examples

(Draft)

1.16. The `/span` element

...?

(Draft)

1.17. The `/sub` element

...?

(Draft)

1.18. The `/summary` element

...?

(Draft)

1.19. The `/sup` element

...?

(Draft)

1.20. The `/table` element

...?

(Draft)

1.21. The `/title` element

...?

2. Core attributes

```
$core.attrs ::= ( @xml:id | @xml:lang | @xml:base | @dir | @class | @href | @status )
```

This attributes *must not* be repeated.

- `@xml:id`
- `@xml:lang`
- (Draft) `@xml:base`
- (Draft) `@dir`

- `@class`
- `@href`
- `@status`

(Draft)

2.1. The `@xml:id` attribute

...?

(Draft)

2.2. The `@xml:lang` attribute

...?

(Draft)

2.3. The `@class` attribute

...?

(Draft)

2.4. The `@href` attribute

...?

(Draft)

2.5. The `@status` attribute

...?

3. Metadata attributes

- `@about?`
- `@content?`
- `@datatype?`
- `@typeof?`
- `@property?`
- `@resource?`

(Draft)

3.1. The `@about` attribute

...?

(Draft)

3.2. The `@content` attribute

...?

(Draft)

3.3. The `@datatype` attribute

...?

(Draft)

3.4. The `@typeof` attribute

...?

(Draft)

3.5. The `@property` attribute

...?

(Draft)

3.6. The `@resource` attribute

...?

(Draft)

4. Flow

4.1. Block

4.2. Table

<http://www.w3.org/TR/CSS21/tables.html>

4.3. Inline

(Draft)

5. Relationship with RDFa

...?

(Draft)

6. Namespace

<http://purl.oclc.org/NET/dml/1.0>

(Draft)

7. Schema

RELAX NG and Schematron references

Appendix A — Resources

RELAX NG

- ISO/IEC 19757-2:2008: [Information technology — Document Schema Definition Language \(DSDL\) — Part 2: Regular-grammar-based validation — RELAX NG](http://standards.iso.org/ittf/PubliclyAvailableStandards/c052348_ISO_IEC_19757-2_2008(E).zip) ([http://standards.iso.org/ittf/PubliclyAvailableStandards/c052348_ISO_IEC_19757-2_2008\(E\).zip](http://standards.iso.org/ittf/PubliclyAvailableStandards/c052348_ISO_IEC_19757-2_2008(E).zip)). ISO/IEC. 2008.
- [RELAX NG Home page](http://www.relaxng.org/) (<http://www.relaxng.org/>)

Schematron

- ISO/IEC 19757-3:2006: [Information technology — Document Schema Definition Language \(DSDL\) — Part 3: Rule-based validation — Schematron](http://standards.iso.org/ittf/PubliclyAvailableStandards/c040833_ISO_IEC_19757-3_2006(E).zip) ([http://standards.iso.org/ittf/PubliclyAvailableStandards/c040833_ISO_IEC_19757-3_2006\(E\).zip](http://standards.iso.org/ittf/PubliclyAvailableStandards/c040833_ISO_IEC_19757-3_2006(E).zip)). ISO/IEC. 2006.
- [Schematron Home page](http://www.schematron.com) (<http://www.schematron.com>)

IETF (Internet Engineering Task Force)

- [RFC 2119: Key words for use in RFCs to Indicate Requirement Levels](http://www.apps.ietf.org/rfc/rfc2119.html) (<http://www.apps.ietf.org/rfc/rfc2119.html>). S. Bradner. 1997.
- [RFC 4646: Tags for the Identification of Languages](http://www.apps.ietf.org/rfc/rfc4646.html) (<http://www.apps.ietf.org/rfc/rfc4646.html>). A. Phillips, Ed., M. Davis. 2006.

RDFa

- [RDFa in XHTML: Syntax and Processing](http://www.w3.org/TR/2008/REC-rdfa-syntax-20081014) (<http://www.w3.org/TR/2008/REC-rdfa-syntax-20081014>). B. Adida, M. Birbeck, S. McCarron, S. Pemberton. 2008.
- [RDFa Primer](http://www.w3.org/TR/2008/NOTE-xhtml-rdfa-primer-20081014) (<http://www.w3.org/TR/2008/NOTE-xhtml-rdfa-primer-20081014>). B. Adida, M. Birbeck. 2008.

Dublin Core Metadata Initiative

- [Dublin Core Metadata Initiative Home page](http://dublincore.org/). (<http://dublincore.org/>)
- [Expressing Dublin Core metadata using HTML/XHTML meta and link elements](http://dublincore.org/documents/2008/08/04/dc-html/) (<http://dublincore.org/documents/2008/08/04/dc-html/>). P. Jhonston, A. Powell. 2008.