The OASIS Darwin Information Typing Architecture (**DITA**) is a standard XML-based architecture for representing documents intended primarily for consumption by humans. It provides architectural features for content modularity, content reuse, and controlled extension of document vocabularies.

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"Technical documentation is a love letter that you write to your future self." Damion Conway

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What is DITA?

DITA is **a set of document types**,

for authoring and organizing topic-oriented information

as well as **a set of mechanisms** for

combining,
extending
constraining

document types.

What does DITA mean?

Darwin Information Typing Architecture stands for core concepts used in DITA.

Darwin refers to Charles Darwin, the originator of the Theory of Evolution, which represents heredity and adaptability.

Information Typing refers to the typing of topics and maps.

Architecture means that there is a framework for topic and map types in the standard.

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The short history of DITA

The 1980's - SGML, Desktop Publishing, and online Help

The 1990's - Windows Help, IBM Minimalism*, and XML

The 2000's - IBM DITA. The goal of DITA was to formalize information typing practices, both print and online

2005 Feb. - OASIS DITA. IBM donated the Open Toolkit to Organization for the Advancement of Structured Information Standards (OASIS)

2005 June - **DITA 1.0** was approved as an OASIS Standard. DITA 1.1 was approved in August 2007, adding a new Bookmap specialization.

2010 - DITA 1.2 was released It added structured learning, creation of *Learning Objects* with DITA (compatibility with eLearning standards)

2015 - DITA 1.3 final release. Added several new features.

* IBM Minimalism: in technical writing. Using small non-linear chunks readable in any order. Emphasizing *reading To Do*, not reading *To Know* or *To Learn*.

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DITA...

...meets zeitgeist

classical book-oriented documents has reached its limits (requirements placed on them have changed enormously). Users no longer want comprehensive books.

...is free

DITA is an open standard and is therefore not subject to license fees

...does have precise language definition

the definition of the DITA language exists in the form of XML DTDs and XML schemas (Version 1.3 is the last one)

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Where can DITA be used ?

DITA originally came from the **technical documentation** area.

The content reuse (base feature of DITA) is possible on a wide range of document production:

marketing,

training,

electronic learning, and

product information development.

Where DITA cannot be used ? It is quite complicated to answer this question ☺

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Basic principle for DITA: topic-orienting structure

Topic-orienting = **division of content into pieces** known as topics with the aim of assembling and reusing them flexibly

Topic = **topic is a content snippet**. However, not every snippet of content is a good topic. The topic

- is self-contained piece of content,
- is as context-independent as possible, containing a key statement,
- making sense on its own.

Topic size = **topics should not be too large**, otherwise there is a risk that the topic contains more than one key statement and/or it is difficult to display it on small devices

DITA topic types

DITA topic type	For
concept	Background information, concept, interdependencies, overview
glossentry	Glossary entry
machinery task	Instruction in engineering
reference	Facts, description of functions, commands, parameters
task	Instruction, procedure
topic	Content that does not suit any other topic type and basic type for specializations
troubleshooting	Error message and removal

Finding suitable topic types is not a simple task...

DITA topic type example (glossary reference in XML)


```xml
<?xml version="1.0" encoding="utf-8"?>
<!DOCTYPE glossentry
  PUBLIC "-//OASIS//DTD DITA Glossary//EN" "glossary.dtd">
<glossentry id="GLS_longitude">
    <glossterm>földrajzi hosszúság (longitude)</glossterm>
    <glossdef>
        Valamely helynek ill. a hely meridiánjának
        fokokban kifejezett távolsága a greenwichi kezdő
        meridiántól keletre vagy nyugatra.
        <p>
            <image href="./glossaryPic/longLat.png"
                   scale="15"
                   align="left"
                   placement="break">
              <alt>longLat.png</alt>
            </image>
        </p>
    </glossdef>
</glossentry>
```

purists prefer to produce cryptic XML codes on the fly ☺

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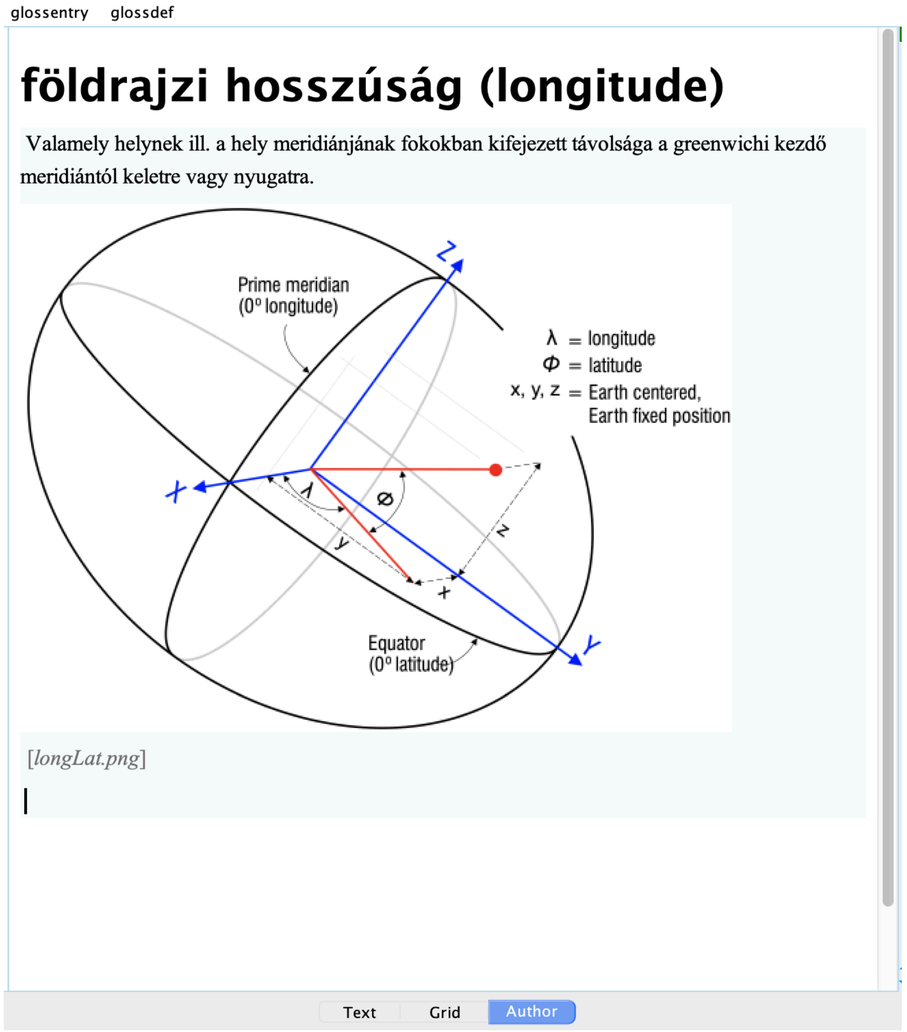
DITA topic type example (glossary reference in "Author" mode)



Modern authoring technologies allow you to **interact with XML content** in the most efficient and productive way possible.

Cutting edge XML tools based on DITA:

- oXygen
- XMetaL
- Altova AUTHENTIC 5

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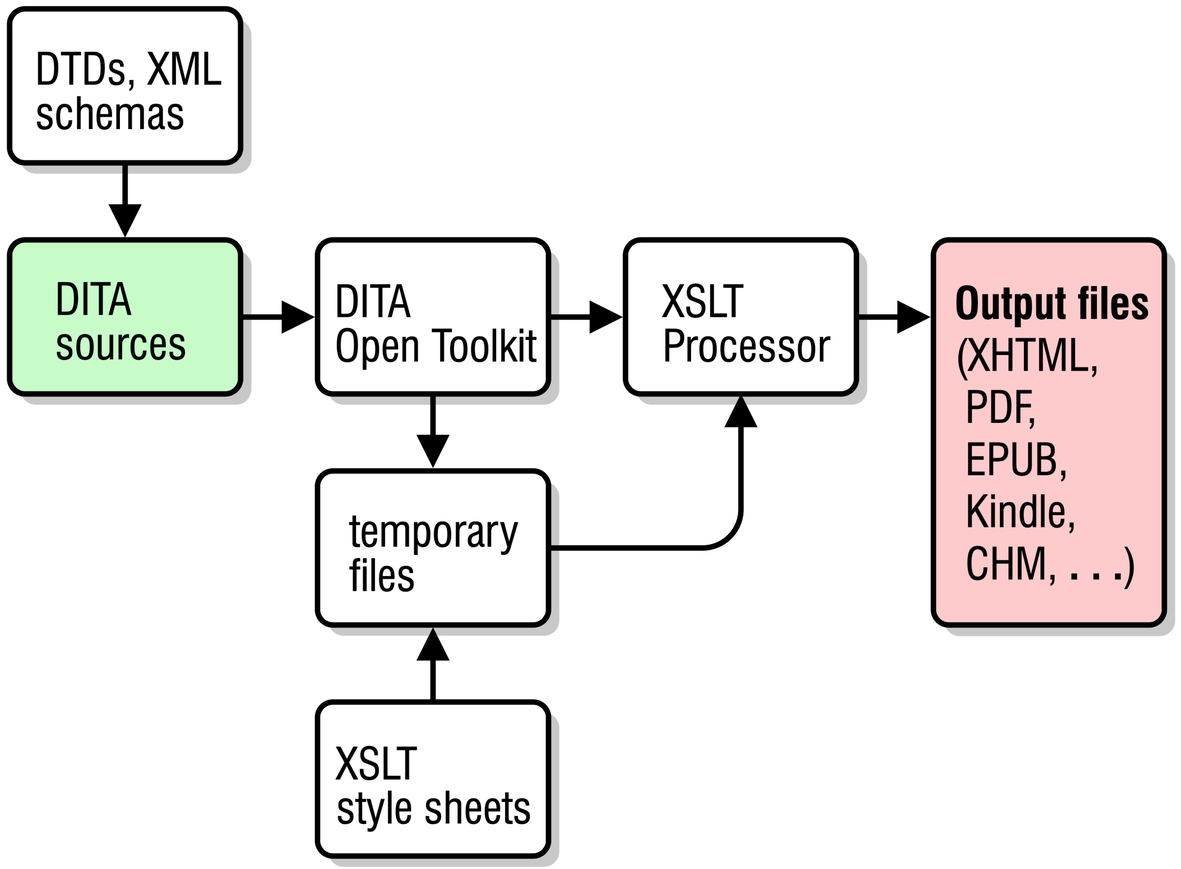
DITA architectural considerations



DITA authors produce DITA sources, topics and maps, indices, glossaries, drawings, diagrams, and figures.

DITA Open Toolkit (DITA-OT) is composed of JARs, XSL, XSL-FO, CSS, HTML configuration files.

DITA-OT controls the renderer (XSLT Processor), which produces the output in several electronic formats.

Example: a **Web service's Users Guide** generated from single DITA source in PDF, XHTML, and EPUB formats.

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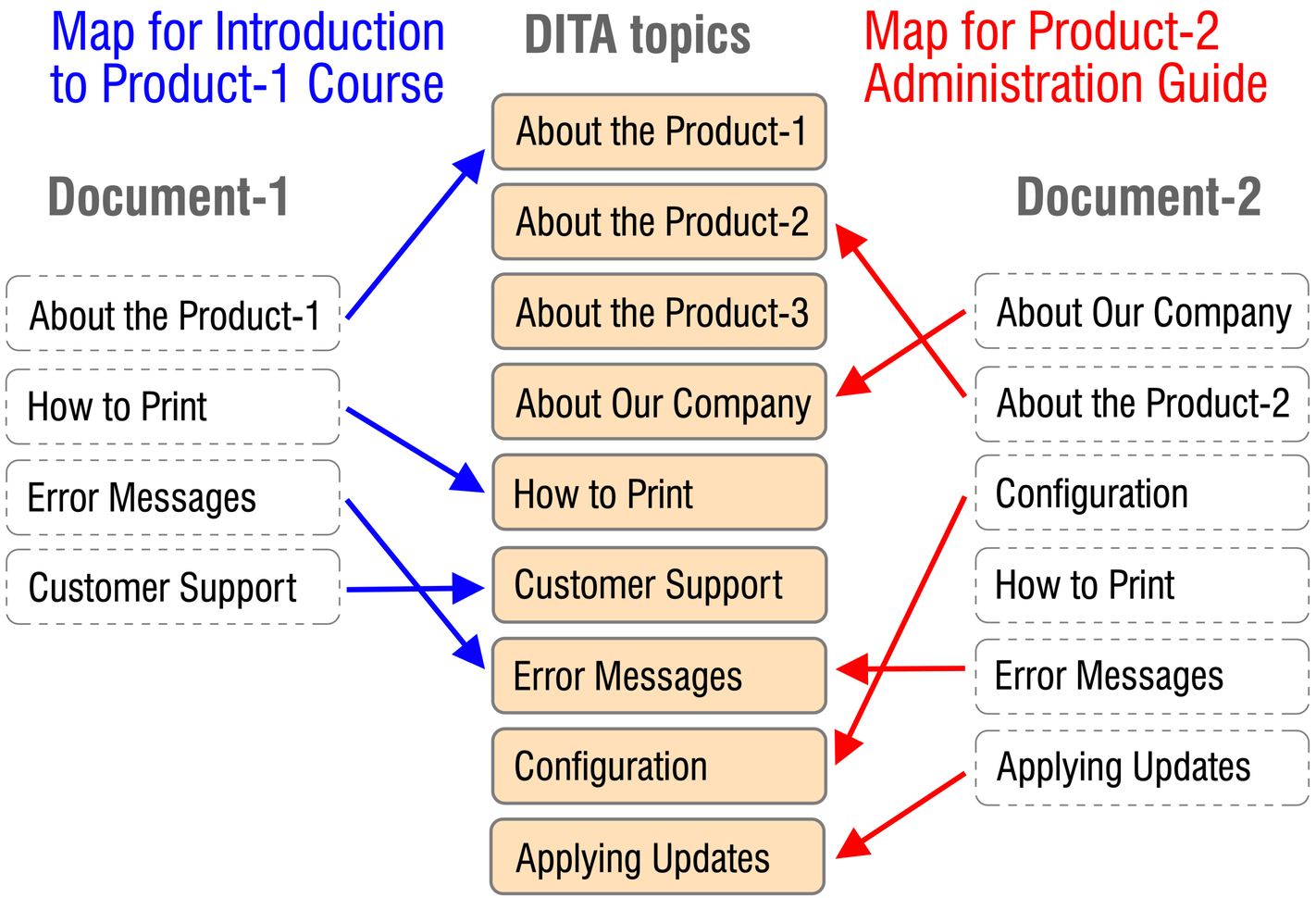
DITA Topics and DITA Maps



Two different DITA Maps control the content, and the sequences of the selected DITA topics...

...according to the output documents' need.

DITA metadata

Metadata = information *about the content* in DITA topics and maps.

Metadata strategy

- easy to find (keywords, index entries, ...),
- easy to manage (help us to organize topics and maps),
- targeted to specific audience (version, variant, model, operating system, audience, ...).

Types of metadata

- topic metadata,
- DITA map metadata,
- index entries,
- conditional processing attributes.

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DITA metadata elements

Metadata elements

<audience>
<author>
<brand>
<category>
<component>
<copyrholder>
<copyright>
<created>
<critdates>
<featnum>
<keywords>
<permission>
<platform>
<prodinfo>
<prodname>
<prognum>
<publisher>
<resourceid>
<revised>
<series>
<source>
<vrm>
<vrmlist>

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DITA metadata sample: indexing


```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE topic PUBLIC "-//OASIS//DTD DITA Topic//EN" "topic.dtd">
<topic id="docData">
    <title>A dokumentum adatai</title>
    <prolog>
        <metadata>
            <keywords>
                <indexterm>dokumentumadatok</indexterm>
                <indexterm>author</indexterm>
                <indexterm>proofreader</indexterm>
                <indexterm>elektronikus formátumok</indexterm>
                <indexterm>typesetting rendszer</indexterm>
            </keywords>
        </metadata>
    </prolog>
    <body>
        . . .
    </body>
</topic>
```

DITA uses several metadata elements and metadata attributes for conditional processing, filtering, and flagging. **Indexing** is one of them...

Indexing can be tested here...

The OASIS Darwin Information Typing Architecture (**DITA**) is a standard XML-based architecture for representing documents intended primarily for consumption by humans. It provides architectural features for content modularity, content reuse, and controlled extension of document vocabularies.

DITA features and facilities

DITA has been designed to

- information typing,
- semantic markup,
- modularity,
- reuse,
- interchange,
- production of different deliverable forms

from a single source.

Key DITA features and facilities

- DITA topics,
- DITA maps,
- DITA addressing,
- information typing,
- content reuse,
- conditional processing,
- configuration,
- specialization,
- constraints.

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DITA keywords

1 - 25	26 - 50	51 - 75	▪ ▪ ▪	501 - 528
abbreviated-form	bookabstract	choices		topicSubjectTable
abbrevlist	bookchangehistory	choicetable		topicapply
abstract	bookevent	choption		topicgroup
addressdetails	bookeventtype	choptionhd		topichead
administrativearea	bookid	chrow		topicmeta
alt	booklibrary	cite		topicref
amendments	booklist	closereqs		topicset
anchor	booklists	cmd		topicsetref
anchorid	bookmap	cmdname		topicsubject
anchorkey	bookmeta	codeblock		trademarklist
anchorref	booknumber	codeph		tt
apiname	bookowner	coderef		tutorialinfo
appendices	bookpartno	colophon		typeofhazard
appendix	bookrestriction	colspec		u
approved	bookrights	completed		uicontrol
area	booktitle	component		ul
attributedef	booktitlealt	conbody		unknown
audience	boolean	conbodydiv		url
author	brand	concept		urls
authorinformation	category	consequence		userinput
b	chapter	contactnumber		var
backmatter	chdesc	contactnumbers		varname
bibliolist	chdeschd	context		volume
body	chhead	coords		vrm
bodydiv	choice	copyrfirst		vrmlist
				wintitle
				xref
				year

C++11 does have 84 keywords...

Should you use all of these **528** keywords, DITA elements and attributes ?

Not at all ☺

"Technical documentation is a love letter that you write to your future self." Damion Conway

Making the transition to DITA

What if we think that "**this DITA is sooo great, reasonable, and has unsurpassed advantages... we need it right away ! What should we do now ?**"

The answer is:

Make the transition to DITA

Making the transition to DITA

Factors for success (after we decided to convert book-model to a topic-model)

- team members' acceptance of and willingness to actively support and participate in (will they tolerate minor inconveniences ?),
- number of media we are publishing to,
- degree of specialization of our end system,
- the volume of our legacy content,
- consistency of our pre-conversion content,
- budget availability,
- transition time.

Making the transition to DITA

The core of the DITA implementation team is comprised of five essentials

- a manager,
- a technical lead,
- an information architect,
- a lead editor,
- and the content authors.

- it is common for one person to take two or three of these roles.

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Making the transition to DITA

Who makes what in the core DITA team: **the manager**

- (usually) the director of Technical Publications,
- *provides leadership and vision* in the change management,
- oversees the *project budget*,
- ensures the systematic *tool selection process*,
- ensures the *team's DITA-goals*
  - why are we moving to DITA?
  - how will we measure success?
  - what concerns exist?
  - are our expectations realistic?
  - what training and support does the team need?

Making the transition to DITA

Who makes what in the core DITA team: **the technical lead**

- *understands the technical details* of XML, DITA, and the DITA toolkit,
- *is responsible for maintaining* the DTDs, or schemas and stylesheets,
- *analyzes the content* (together with the team's information architect) to be transformed.

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Making the transition to DITA

Who makes what in the core DITA team: **the information architect**

- *designs structures*, layout, information retrieval, and navigational elements,
- *analyzes the content* (together with the team's Technical Lead) to be transformed,
- *builds information product models*, element models, metadata and reuse strategies,
- determines if and *how DITA must be specialized* to meet the organization’s content needs,
- *defines clear guidelines for authors* to create reuseable topics or chunks of content,
- *defines processes* to ensure that authors reuse existing content.

Making the transition to DITA

Who makes what in the core DITA team: **the lead editor**

- *understands* best of *all the content* as a whole,
- helps guide *key decisions on chunking and typing*,
- *plays a key role in author training*,
- helps to *demonstrate how content can be migrated*.

Making the transition to DITA

Who makes what in the core DITA team: **the content authors**

- *write topics*, content references, maps and navigation,
- *define linking, topic- and map metadata* (indices, conditional processing, importance, ...),
- *reuse topics* written by others,
- convert legacy content,
- review DITA code,
- *provide drawings, diagrams, figures*.

Companies Using DITA

Companies (detailed list* of firms) that produces docs using DITA

Airbus	Nikon
Boeing	Oracle
Bosch	PayPal
Cray	QNX
DAF	Renault
Electrolux	SWIFT
Fujitsu	Tektronix
GeneralElectric	UNICEF
Hitachi	VMware
IBM	Worldline
Komatsu	Xerox
Lexmark	Yamaha
MathWorks	ZTE

*With 770 firms currently listed. Last updated May 8, 2022.

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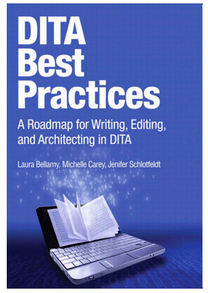

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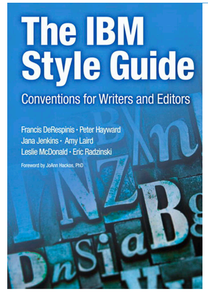

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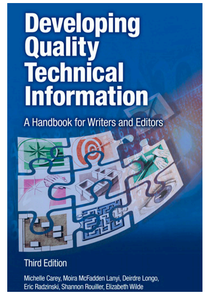

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Questions