OASIS Darwin Information Typing Architecture (DITA)

JoAnn T. Hackos, PhD
President, Comtech Services, Inc.
Chair, OASIS DITA Adoption Technical Committee
Exec. Director, Center for Information-Development Management (CIDM)
March 2015
Problem–Content Silos

Engineering source content and graphics

Procedural and Instructional Text

Service Knowledge Base

© 2015 Comtech Services, Inc.
Problem–Multiple Sources

Old content in a KBase

CAD images updated

Updated procedures—not reviewed

specs

Out-of-date product spec

Content delivered to end users is inaccurate, out of date, poorly written, difficult to find

AR content?
## Problem—No single source of truth

<table>
<thead>
<tr>
<th>Traditional tools create text not data</th>
<th>Technical communication, Learning and training, Services and support duplicate information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text in multiple formats and languages</td>
<td>No reliable feedback loop</td>
</tr>
<tr>
<td>Engineering drawings not accessible later in the life cycle</td>
<td>Agile methods leave less time to make changes later in the life cycle</td>
</tr>
<tr>
<td>Information not leveraged for translation and localization</td>
<td>No effective workflow system driving the start-to-end process</td>
</tr>
</tbody>
</table>
Enter the OASIS DITA Standard

- OASIS--Organization for the Advancement of Structured Information Standards
- DITA Technical Committee inaugurated by IBM in 2002
- DITA architecture (including base topic types defined in DTD and schema) contributed to OASIS in 2004
- DITA Adoption Technical Committee—promoting the standard and educating the community
- DITA open toolkit available through GitHub – processing application
- Domain specific communities
  - Learning and training
  - Semiconductors
  - Technical communication
  - Translation
  - Embedded help systems
Domain specific communities formed in semiconductor, technical communication, translation, learning and training, embedded help systems, and more
What is DITA?

**Darwin:** DITA uses the principles of inheritance for specialization

**Information Typing:** DITA is designed for topic-based technical information based on an information architecture of concept, task, and reference

**Architecture:** DITA provides the framework for the development of an enterprise Information Model
DITA relies on topics

Core topic information types for technical content

A topic is a standalone piece of information that answers a single question

**topic**
A unit of information which is meaningful when it stands alone.

- **concept**
  Provides background information that users need to know.

- **task**
  Provides procedural details such as step-by-step instructions.

- **reference**
  Provides quick access to facts.
Key characteristics

- Semantic element labeling
- Specialization
- Delivery configurations
- Plugins to the DITA Open Toolkit
XML authoring

Engineering Source Materials

XML structured content

XML-based graphics

XML forms-based content

Designated content owners

XML structured content

Product Specifications

- asdkasdasd;fl
- as;dlkj;dl
- as;dlkjd
- a;sldij
- a;sldfj;asdlkdfj
- wruas;ljsd

Direct transfer to reference topic

Updated at the source
XML authoring

Engineering Source Materials

XML structured content

XML-based graphics

XML forms-based content

Designated content owners

XML structured content

User Procedure
1. Press A
2. Do B
3. as;dlkjd
4. a;slldij
5. a;slldj;asdlkdfj
6. weruas;ljsd

Source for task topics

Updated by information developers
XML authoring

Engineering Source Materials

- XML structured content
- XML-based graphics
- XML forms-based content
- Designated content owners

XML structured content

Rendered for PDF and HTML in multiple views

Used in animations and simulations
DITA topic mapping

Task, Concept, Reference
Topics

Hierarchical Map I

Topics are assembled into a variety of outputs in print and electronically
DITA topic mapping

Task, Concept, Reference

Hierarchical Map II

Task A

Reference A

Reference B

Task B
Topic changes

Task, Concept, Reference

Hierarchical Mapping

Concept A
Task A
Reference A
Concept B
Detail changes (conrefs)
Multiple outputs

DITA Maps
- Concept A
- Task A
- Reference A
- Concept B

Multiple Formats/Topic-based Delivery
- PDF/Dynamic Delivery
- HTML/Embedded Help/AR
Errors and corrections

DITA Maps

Concept A

Task A

Reference A

Concept B

Changes in the Output

There’s a mistake here
Corrected in the repository

Task, Concept, Reference

Hierarchical Mapping

Concept A

Task A

Reference A

Concept B

© 2015 Comtech Services, Inc.
Changed back to the source

Engineering Source Materials

Task, Concept, Reference

Content owner is notified of the change
Core business opportunities

- Enhanced standards at the source
- More opportunities for standardized, consistent content
- More consistent branding of content
- Customized, branded look-and-feel for OEMs and VARs
- More reliable use of translation memory
- Decreased cost of translation
- Better schedules, less chaos at the end
- Reduced time and cost of production in multiple languages
- Automated topic interrelationships to eliminate hand-coding of references and links
- More languages and greater customization for global audiences
Core information strategies

- Reuse source and translated content across multiple projects
- Repurpose content to multiple deliverables and media
- Manage all content through development, localization, and review cycles
- Identify content changes for authors, translators, project managers, and reviewers
- Promote parallel development and localization processes
- Improve the consistency of final deliverables
- Automate the production of final deliverables
- Reduce costs and time throughout the life cycle
- Minimize bottlenecks in the life cycle
- Reduce costs and time on development, localization, and production of final deliverables
Content management environment
Additional information

- joann.hackos@comtech-serv.com
- dita.xml.org – community site
- ISO/IEC/IEEE 26531 content management standard
- Introduction to DITA: A Basic User Guide to the Darwin Information Typing Architecture
- Content Management Strategies Conference, 20-22 April 2015, Chicago, IL