Structured Authoring: A First Step to Content Management

Structured authoring is an ideal first step to implementing content management. Structuring your content prepares it for reuse and its eventual migration to a content management system. It also prepares writers to work in a structured authoring environment.

Overview
Content is often developed inconsistently in technical authoring environments, as new documents are created and existing documents are revised. Standardizing your content before moving it into a content management environment saves you time and money, and helps you get the most value from your CMS.

Content management initiative at Trane
Content matters most! Most content management systems are easy enough to use, but if your content isn’t structured at the start, your success using any CMS will be limited. The writers at Trane have seen this first-hand. Working with Pamela Kostur (Parallax Communications) and Mary Craig (Content Management Leader, Trane Commercial Systems), these writers are standardizing their content and readying it for reuse, before its move to the content management system.

The challenge: a threat to innovation
With an increasing workload and a non-increasing headcount, it became obvious that the existing desktop publishing environments at Trane would not meet the near-term and future needs of the writing team. Some of the issues include:

- The writers are located in different parts of the country.
- Content is currently unstructured and unmanaged.
- The current tools and processes for creating documentation are inefficient, inconsistent, and unable to meet the vision for Trane documentation. For example:
  - Writers spend up to 25% of their time on non-value add tasks (such as formatting and creating multiple outputs).
  - The process to review and approve content is manual.
  - There is no integration with engineering systems from which technical data and many illustrations originate.
  - Writers have difficulty retrieving reusable content from source files that are stored (by document) on multiple servers.
  - Writers have difficulty keeping content consistent in multiple documents that are authored by different writers and reviewed by different SMEs.
  - Writers have difficulty finding instances of reused content in all affected documents, resulting in additional inconsistency.
  - Inconsistent content and structure among documents of the same type make it difficult for users to find the information they need.
  - The current authoring environments don’t easily produce new outputs to meet future user requirements (such as displaying information on mobile devices).
Consequently, Trane Commercial Systems (TCS) and Trane Residential Systems (TRS) entered into a joint effort to move into a content management environment. We recognized that multiple aspects of the project had to be considered:

- Selection of a CMS environment that facilitates content reuse. Research as well as corporate direction made Arbortext the obvious solution from a technology perspective.

- Standardization of content to ensure maximum reuse potential through consistent structure and content modules. We hired a consultant (Pamela Kostur, Parallax Communications) to help us establish a content reuse strategy and begin the process of structuring our content.

- Ability to demonstrate a new authoring environment would be successful. We conducted a pilot to test our reuse strategy as well as the Arbortext environment; this hands-on experience was the only way to prove we were moving in the right direction.

With all of that in mind, we forged ahead...

**Analysis: what we learned**

Trane knew they wanted to move to content management, but needed to determine a reuse strategy and starting point. We started with a thorough content and process analysis that helped to set specific goals for the project. We:

- Selected a representative set of content, spanning writing groups and document types.

- Examined content to determine reuse potential and to identify usability issues that should be resolved as part of the content management initiative.

It’s critical to start with analysis, for several reasons:

- You need to identify potentially reusable content; this will help you to calculate potential ROI and give you a starting point (low-hanging fruit), allowing you to be successful right away. Our analysis substantiated the potential benefit in establishing a managed reuse strategy.

- You need to find the most problematic areas in the content itself, and in the content life cycle. Resolving issues with both content and processes is important when moving to content management. Content must be standardized (and usable) for reuse to be effective, and processes need to be more collaborative.

- By talking to writers and SMEs, you hear first-hand about their pain points. We learned that they were frustrated with the current authoring and review processes, and they were open to change. Writers wanted to reuse content, but before reusing it, they wanted to know that it was “good” content.

Our analysis showed considerable potential for reuse, but to get to a point where content was reusable, we would need to do considerable work standardizing content, documents, and processes. Our analysis uncovered these main issues:

- Differences in documents depending on writing group and writer.

- Lack of authoring standards describing how documents should be structured; e.g., what topics belong in each type of document and in what order, what goes in one type of document as
opposed to another and what level of detail? SMEs also didn’t know what content to provide, so they provided inconsistent types of information and levels of detail.

- Lack of authoring standards explaining how particular topics are to be written; e.g., what is the standard for a procedure, for a warning, for a sequence of operations?

- Difficulty in finding definitive versions of content/entire documents; writers and reviewers didn’t know what document and which content represented a good model that they could follow, and couldn’t easily find definitive reusable content.

- Lack of reviewing standards; SMEs reviewed documents differently and provided inconsistent feedback and content to writers.

**Structuring and testing: what we did**

While we found considerable potential for reuse, we also discovered that we would need to define structures, “cleaning up” both the structure of documents and the structure of the content components within them.

Here’s what we did:

- Selected one type of document as a starting point (Service Facts, a document that technicians use in the field while serving units).

- Defined its structure (information architecture).

- Formed a content reuse strategy (focusing on hazards, cautions, and certain types of procedures that were reusable across several documents).

- Presented findings to the writing groups, taking them through a structured writing workshop.

- Selected writers from different writing groups to participate in a pilot.

- Conducted a pilot in which we had the writers perform a series of tasks over the course of eight weeks. Writers were given specific tasks each week and were asked to answer questions about each task. Our goals were to:

  - Test how well Arbortext (specifically, SMA, Service Manual Application, which is a DITA specialization that comes with Arbortext) meets Trane’s needs for content development and management as well as document publishing.

  - Obtain feedback from pilot participants on the:
    - Paradigm shift in authoring, managing, and publishing in a content management/XML/DITA environment;
    - Process changes required to move to a content management environment.

  - Gather information to support a business case.

**A successful pilot**

Overall, the pilot was successful, as we accomplished our initial goals. We also identified areas for further development and evaluation before moving to a production environment.
Content management goals: what’s next
As a result of the pilot activities, we learned:

• Existing content requires rewriting for reuse. The amount of effort involved in rewriting for reuse takes more time than anticipated, and requires participation from SMEs.

• As is true with any significant change, there is a learning curve that needs to be addressed. A combination of online and instructor-led training is preferred when there are major changes to the way content is developed, to the authoring environment itself, and to processes.

• Authoring and owning topics rather than entire documents is a huge paradigm shift for writers. There is much to learn about effectively authoring in a DITA environment, including the use of DITA maps and trusting the Publishing Engine to give you the expected output.

Where are we now? We completed our business case and had it approved at all management levels. We also sent a Request for Proposal (RFP) to potential implementation vendors and will make our selection in April 2011. It is exciting to know we will move from an unstructured content development environment to one with structure that focuses on the content, and allows us to reap all of the benefits of a content management system. Without structured content, none of this would be possible.

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