

# Migration to Structured Authoring

## Determining the Highest ROI, Lowest TCO Solution

### Executive summary

Content development managers today have a number of pressures driving them to consider structured and topic-based authoring. They have heard that migrating from unstructured content to topic-based structured content can result in significant cost savings. However, the Return on Investment (ROI) justification may not be clear. Moreover, once the decision is made to migrate, choosing the best processes and authoring tools out of the many that are available can be overwhelming. This paper discusses the issues involved in migrating to topic-based structured content, develops a list of requirements that an ideal structured authoring tool should have, and proposes a solution that has the highest ROI and lowest Total Cost of Ownership (TCO).

### Motivations for considering structured content

Topic-based authoring and structured authoring are different methodologies, but they are most effective in reducing TCO when combined.

Separating formatting and content allows us to use the same content to generate many forms of output. For example, content might be transformed into printed manuals, online and mobile help, PDF files, etc. Topic-based authoring involves creating content in small, stand-alone chunks rather than traditional book-style units. Content that follows structured authoring has a structural standard, versus a non-structured format that can be more freestyle and inconsistent. In fact, unstructured authoring has about twice as many copy errors and 34% more content errors in product descriptions than topic-based authoring.

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As of 2011, over 42% of companies are already working in structured content, and another 10% will do so within a couple of years, according to Pringle and O'Keefe in *The State of Structured Authoring\**. They found the following top motivations that organizations give for migrating:

- Maximizing reuse of content
- Improving document consistency
- Reducing development cost
- Reducing translation cost (Localization includes every task required to prepare a document for a particular culture, such as formatting dates correctly. However, we use translation in this paper because it is the bulk of the total cost of localization and is more commonly understood.)
- Expanding personalization
- Increasing information exchange (portability of information)
- Following compliance requirements

According to Lionbridge\*\*, organizations that have most success with structured authoring, typically have one or more of these requirements:

- Transferring documentation between different systems
- Managing dispersed content production
- Maintaining documentation over a long product life-cycle
- Translating documentation into multiple languages
- Creating and maintaining a large volume of documentation
- Frequently updating documents
- Supporting multiple product variants
- Publishing multiple formats
- Following a standard document structure

Translation costs are often the major cost component of content development. Structured content can maximize the reuse of content, reducing the translation of duplicate and highly similar content, thereby reducing costs.

Cost is the primary reason that organizations choose not to implement structured authoring, yet paradoxically two of the largest costs—development and translation—also happen to have the largest potential for savings. Aberdeen Group\*\*\* found that shrinking budgets and increased workloads are motivating content developers to look for ways to reduce development costs. One way is to reduce the amount of time that authors, especially Subject Matter Experts (SMEs), spend formatting documents. They waste a stunning 30% to 75% of their time formatting documents in non-structured authoring tools. By using structured content, authors don't have to worry about formatting because the styles are applied automatically.

Translation costs are often the major cost component of content development. Structured content can maximize the reuse of content, reducing the translation of duplicate and highly similar content, thereby reducing costs. Also, when Darwin Information Typing Architecture (DITA) formatted content is sent to translation companies, this allows translators to leverage their existing translation databases, which reduces translation costs and Time to Market (TTM).

Later, we will see how to incorporate these costs into the TCO and calculate the ROI.

### **Top problems in migrating to unstructured content**

There may be strong motivation to migrate to structured content, but Aberdeen Group found that a number of challenges stand in the way:

- Managing and converting legacy unstructured content
- Cultural resistance to change
- Productivity loss during the transition
- Adoption of a topic-based approach to authoring content
- Integrating with related software solutions
- Underestimating the cost of migration when using open source tools

Migration of legacy content can initially seem an insurmountable problem when the first-draft plans for conversion assume that every variation in content must be covered and that everything must be migrated at once. Both assumptions are incorrect—migration should not necessarily be done in one pass. To make migration more realistic, the plan should reflect a realistic cost-value relationship that prioritizes the conversion of documents based on actual need.

Cultural resistance is a powerful force. If staff cannot adjust to a new authoring environment, it can sabotage the migration attempt and can have a huge impact on migration costs. For example, users may hesitate to author in XML because they fear losing control of formatting, or may be hesitant to leave their comfortable authoring tools because they believe that much training would be required.

Organizations that choose an open source authoring solution may underestimate the true cost and effort of migration using open source tools, such as the DITA toolkit. They can quickly find out that these generic tools don't cover all their needs. For example, the generic open source DITA style sheet for generating PDFs will quickly show its limitations when an organization wants to modify it. Even just adding something like a company logo can require hiring a consultant.

The biggest mistakes made in structured authoring implementation are, according to Pringle and O'Keefe, in the following areas (in decreasing order of importance):

- Project management
- Development process
- Tools and technologies
- Training and education
- Migration/Legacy content/writing issues

Migration from unstructured content to structured format can cause great difficulties due to inconsistencies in document structures and writing styles.

### **Document trends**

Authoring has evolved dramatically over time. For most of history, authoring was in the form of handwritten documents. Next came page-based typesetting, and for hundreds of years formatting and content were integrated. In the latter part of the 20th century, desktop publishing allowed the choice of topic- or page-based authoring, but still did not separate the format and content. In recent years, structured authoring finally allows the separation of formatting and content, giving us the benefit of generating multiple forms of formatted output from one set of content.

In today's world, the number of electronic document formats continues to expand. Recently, we've seen an explosion of different devices such as e-book readers, tablet PCs, and mobile devices. Users demand content customized to device characteristics, especially small display limitations. They want rich media alternatives to text, such as Video, 3-D, and interactivity.

Users around the world expect content to be tailored for them, which can dramatically increase publishing costs as the number of platforms and languages supported expands. Today's user expects to be able to give real-time feedback on the content, such as reporting errors in documentation and contributing new content.

### **Finding the ideal structured authoring solution**

Our ideal structured authoring tool should deal with the problems we have examined and the demands of today's trends. First, we must determine which XML standards the authoring tool should handle.

Structured content is stored in XML that either follows an industry standard format or is custom to the organization. The most commonly used XML content authoring standard by far is DITA, chosen by almost two-thirds of organizations that develop structured content. Of the remaining organizations, Pringle and O'Keefe found that about 12% are evenly split between the DocBook, S1000D, and non-S1000D military standards. The rest use a custom solution or some other standard. Each standard has different strengths:

- DocBook is best for lengthy narratives like training documents
- S1000D is best for aerospace, defense, and manufacturing
- DITA can work well for all types of content

The ideal content authoring tool should be able to support any of these XML authoring standards, and to create customized ones. To enforce an authoring standard, a Document Type Definition (DTD) defines the rules for the structure of XML content in the same way that building codes define the rules for construction. Becoming an expert at DTDs is a significant investment in time, so to require less training, our ideal system should understand XML authoring standards and use existing standard DTDs.

The instructions that transform content from XML into the final formatted output are stored in XSLT/FO style sheet files. Our ideal authoring tool should not require us to be an XSLT/FO programmer just to print or publish a document. It should:

- understand how to manage and integrate the style sheets with the content;
- automatically create style sheets from existing unstructured documents;
- have a What You See Is What You Get (WYSIWYG) editor to allow us to continually see how a document looks and to enforce styles; and
- have a wizard-based environment that will guide us through the formatting and layout process, all the while automatically updating the style sheets to our needs. This helps us to make style choices and overcome the inherent rigid structure of an XSLT/FO.

We know that today's market demands content for many devices and formats, so our ideal authoring tool must do this out-of-the-box. Since our markets are worldwide, it is vital that our authoring tool help us to minimize translation costs. And because users demand rich media, our authoring tool must allow us to easily integrate rich media into our content.

### **Other considerations**

Staff can have problems adjusting to a new authoring environment, so the tool should be widely used and have extensive training resources available. Authors must be able to collaborate easily with other authors and SMEs. It is best to use an authoring tool that is well-known among consultants if training and initial migration planning resources are required.

Many organizations find that it is vital to use a Content Management System (CMS) to manage content productively. A good CMS keeps structured content up to date and makes it easy to locate content for reuse. The authoring tool should integrate well with popular CMSs at no additional cost.

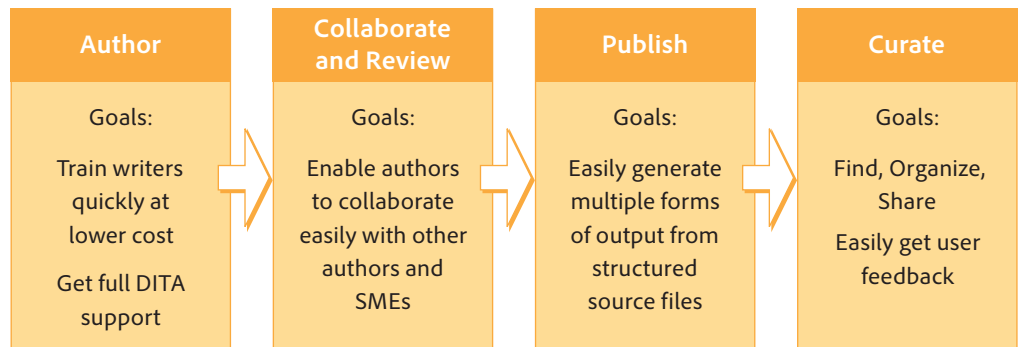
Implementing the migration of unstructured content to structured content can be a big project. The authoring tools should allow migration in phases rather than all at once, permitting a mix of structured and unstructured documents.

A typical migration process is as follows, according to Lionbridge:

1. Analyze the structure of the legacy documents.
2. Determine the structure that new documents should have.

The most commonly used XML content authoring standard by far is DITA, chosen by almost two-thirds of organizations that develop structured content.

3. Develop a conversion process for legacy documents.
4. Test the conversion process on a few documents. Estimate the duration of the full migration based on these results. The less automated the process is, the more lengthy it will be.
5. Train staff in the conversion and maintenance of documents.
6. Implement the conversion process.
7. Development a change management process.



Once the migration is complete, we must begin an ongoing development and maintenance cycle of new content. Below is a typical workflow of the stages:

The ideal structured authoring solution must provide the highest ROI and a low TCO for both the migration and the workflow, and should provide a number of benefits.

### Benefits of the ideal structured authoring solution

Of the organizations that have implemented a structured authoring tool, over 80% reached their goal of improving document consistency, and almost 80% reached their goal of content reuse.

Of the organizations that have implemented a structured authoring tool, Pringle and O'Keefe found that over 80% reached their goal of improving document consistency, and almost 80% reached their goal of content reuse. Much of the information that technical communicators write about is duplicate effort, often buried so deep in the documents, that it is difficult to discover the duplication. Topic-based authoring can reduce or eliminate this, which improves consistency. The result is that writers will have less new information to write about and can focus more on improving the quality. Half of the organizations reached their goal in reducing translation costs, succeeding because there were fewer topic components to translate. Also, translation can be started earlier on the smaller individual components rather than waiting for everything to be written, which speeds the TTM. An impressive 60% of the organizations achieved their goal in reducing development costs. As a bonus, many enjoyed improved information exchange, improved personalization and content, and improved regulatory compliance. These exciting successes paint a compelling case for structured authoring.

### "What to look for" tools checklist

The following is a summary of what we look for in an ideal content authoring tool:

- Has a high ROI and a low TCO
- Can handle the full content development cycle—including publishing—with the fastest TTM
- Supports XML authoring standards such as DITA, but allows for any level of customization
- Allows migration to be done in phases by allowing a mix of structured and unstructured documents
- Understands how to manage and integrate the style sheets with the content
- Automatically creates style sheets from existing unstructured documents
- Has a WYSIWYG editor
- Has a wizard-based environment that will guide us through the formatting and layout process
- Generates content that will be displayed on many devices and formats
- Minimizes translation costs
- Easily integrates rich media into our content
- Is widely used, has many people trained, and has extensive training resources available
- Integrates well with popular CMSes at no additional cost
- Gathers and integrates feedback from reviewers and users

Long-term success of our migration to structured authoring depends on choosing an authoring tool from a company that can be relied upon. If the company we choose doesn't exist in a couple of years, our investment would be jeopardized. We will require that the company have sterling attributes:

- Financially stable and able to ride out recessions
- An experienced leader in authoring tools
- Stands behind its products for the long term
- Excellent in product support

### The ideal solution

Now that we have a list of requirements, let's look at a solution that meets these requirements. There are many structured authoring tools out there vying for our attention. Some claim to be the lowest cost. Some claim to be user-friendly. Some claim to be the latest greatest thing. But content development managers need to determine the *total* cost of the migration and what it will cost to develop new content and maintain or reuse content over the years.

The bottom line is that *we want to find the highest ROI, lowest TCO solution for migration to XML/DITA and for ongoing development.*

The answer?

### Adobe® FrameMaker® 10.

You may be surprised. Perhaps you didn't know that Adobe® FrameMaker 10 supports structured authoring at no extra charge. You might not be aware that FrameMaker licensing is very competitive with other authoring tools. You might not know that FrameMaker contains the latest structured technologies.

The truth is that FrameMaker 10 answers a strong "yes" to every one of the requirements in our list. *FrameMaker 10 is the highest ROI, lowest TCO solution for migration to XML/DITA and for ongoing development.*

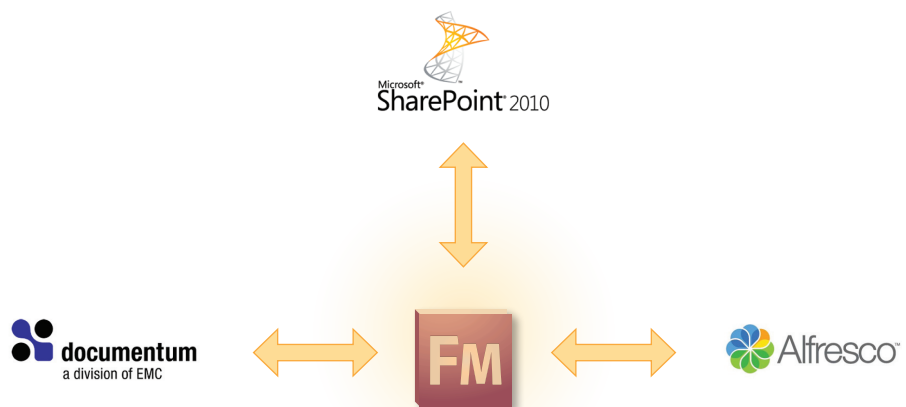
Let's examine why.

### FrameMaker 10 has the lowest TCO for migration

FrameMaker provides an automated utility to convert unstructured legacy content into structured XML content, resulting in considerable time-saving.

Structured FrameMaker's UI and WYSIWYG editor are very similar to unstructured FrameMaker, so the learning curve is flatter, and it is less likely that writers will make costly mistakes by using an unfamiliar tool.

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FrameMaker includes connectors—at no additional cost—to Documentum, SharePoint, and other CMSes, which allows author-to-author collaboration. Both structured and unstructured content can be stored and managed during the migration and future development.

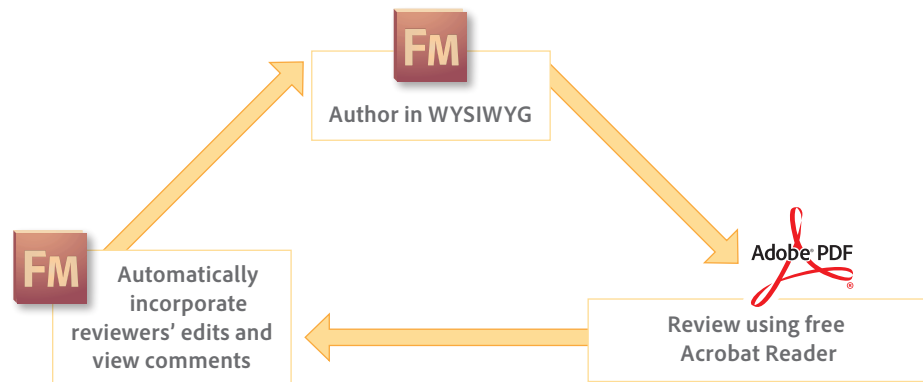
## FrameMaker 10 development workflow fits all our requirements

As you can see in this diagram, FrameMaker 10 meets every goal that we made for our ideal workflow:

	Goals	FrameMaker 10 solution
Author	<ul style="list-style-type: none"> <li>Train writers quickly at lowest cost</li> <li>Get full DITA support</li> </ul>	<ul style="list-style-type: none"> <li>Faster ramp-up for authors resulting in lower training costs</li> <li>Full support for DITA standards</li> </ul>
Collaborate	<ul style="list-style-type: none"> <li>Enable authors to collaborate easily with other authors and SMEs on content creation and review</li> </ul>	<ul style="list-style-type: none"> <li>Reviews easier using the free Adobe® Acrobat® reader</li> <li>Collaboration with authors using built-in CMS connectors, supplied at no extra cost</li> </ul>
Publish	<ul style="list-style-type: none"> <li>Easily generate multiple forms of output from structured source files. Publish in a much less complex way and at significantly lower costs</li> </ul>	<ul style="list-style-type: none"> <li>Publishing much less complex and at significantly lower costs</li> <li>Easy to customize templates to suit corporate standards</li> </ul>
Curate	<ul style="list-style-type: none"> <li>Find, organize, and share content</li> <li>Enable authors to get feedback from users on the content</li> </ul>	<ul style="list-style-type: none"> <li>Ability to get feedback on content from users</li> </ul>

Some things in FrameMaker, such as continuation of table variables, may not be possible to do in XSL-FO. Also, FrameMaker takes just one click to publish to PDF, whereas XSL-FO development can be costly and time-consuming.

A publishing engine comes standard with FrameMaker, but not necessarily with other tools. Setting up publishing with FrameMaker is much easier and faster than other tools, resulting in faster time to market.



Authors can request document reviews by SMEs by using the easy and free Adobe® Acrobat Reader. SMEs can comment easily without having to learn a new tool. SME time spent on reviews is less because they are reviewing topics instead of entire documents or books.

The DITA open-source toolkit cannot generate Web 2.0 content using style sheets. However, FrameMaker lets you publish your DITA content to AIR format, which lets users generate additional content, share with each other and provide feedback on the official content, which in turn increases its quality and usefulness.

### Translation savings

Translation costs drop dramatically when using structured FrameMaker. FrameMaker works with your CMS to reduce or eliminate duplicate translation. FrameMaker can create a new structure template for DITA out of any unstructured FrameMaker document. It is possible to develop a single structured template for all languages, which eliminates the need to add new styles for each language as formatting needs expand. FrameMaker can incorporate an EDD formula using a language attribute at the DITA element level of the document to determine how formatting should change on a language-by-language basis; this replaces multiple manual steps to apply corrective formatting. To help desktop publishing services review content faster, FrameMaker has a series of workspaces with collapsible pods that display all instances of hidden cross reference or index metadata, and broken links to graphics.

Translation costs drop dramatically when using structured FrameMaker. FrameMaker works with your CMS to reduce or eliminate duplicate translation.

## Powerful new features

FrameMaker 10 offers some powerful new features that your content developers will appreciate. These include:

- Full support for DITA 1.1 and 1.2 standards
- Tools for easy DITA specialization
- Structured Application Creation Wizard
- Filtering by attribute
- Enhanced tag view
- Enhanced attribute editor
- Structure-level comparison of documents
- Automation through scripting
- Enhanced importing of comments from PDF files
- Usability enhancements (Auto Spell Check, Highlight Support, scrolling for lengthy dialogue, and enhanced Find and Replace)
- Easy-to-use RM view
- Extended rich media support
- Drag-and-drop cut/paste feature and background color

To read about many additional new features, go to [www.adobe.com/products/framemaker](http://www.adobe.com/products/framemaker)

## Enterprises prefer FrameMaker

Structured FrameMaker dominates the authoring tools market world-wide, with major markets in the US, Europe, Middle East, and Africa. Nearly 80% of present implementers considered FrameMaker.

FrameMaker 10 has the full set of capabilities, which makes it better than other authoring tools. For example, few tools support both structured and unstructured authoring. Some are missing migration tools, a WYSIWYG editor, a publishing engine, scripting, or full DITA support. Some are too technical; often, tools that support DITA force you to become programming experts in XSLT/FO. Many have few publishing formats. Some tools focus on editing and can't handle the complete authoring cycle. Some have exorbitant maintenance contracts.

We want to have confidence in the tools company that we choose. Unfortunately, some tools are made by companies that have not been in existence for very long and/or are missing the solid financial numbers that would give us the confidence that they are going to exist for the long term. It can be a crippling mistake to choose a tool that ends up as the dead product of a failed company.

## This is what industry experts say about FrameMaker 10

*"Adobe FrameMaker 10 ... can significantly streamline workgroup and enterprise workflows."*

—Alan Houser, President, Group Wellesley, Inc.

*"Rich, newly updated and developed features to support DITA makes Adobe FrameMaker 10 a leading tool of choice for any company adopting DITA."*

—Bernard Aschwanden, President, Publishing Smarter

*"There are many new features in Adobe FrameMaker 10 that we take advantage of, including the new scripting to perform repetitive tasks, which enhances productivity considerably ..."*

—Karen Lelieveld, Marketing and Sales Manager, Sabern

*"Adobe Technical Communication Suite 3 and Adobe FrameMaker 10 give me an easy way to create, deliver and maintain all of the print and online formats I need...saving me valuable time in my workflow."*

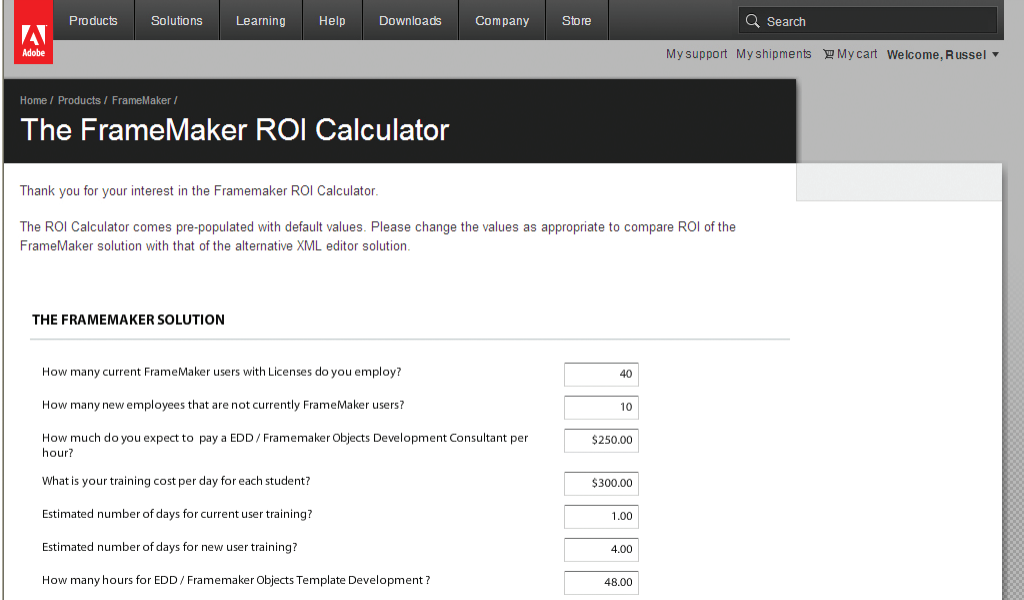
—Matt Sullivan, Director of Training, roundpeg, Inc.

...few tools support both structured and unstructured authoring. Some are missing migration tools, a WYSIWYG editor, a publishing engine, scripting, or full DITA support.

MMDM\*\*\*\*, a major medical device manufacturer, chose FrameMaker. A key factor was the ability to repurpose and leverage existing style information found in legacy FrameMaker documents. It would have taken ten times as long to recreate document layout and formatting with XSLT-FO style sheets. TEEX chose FrameMaker to automate conversion of its training manuals and workbooks to structured authoring. This automation produced a solution that eased adoption and decreased long-term costs.

## FrameMaker has the highest ROI

Adobe has developed a calculator to allow you to evaluate the structured authoring migration and ROI of your particular business requirements. You can compare the ROI of various XML authoring tools, including FrameMaker.



To use this calculator, please visit <http://adobe.ly/c0DGB6>.

## Adobe Corporation stands above the rest

An authoring tools company should be profitable and have solid financials. If not, then it may not be around a long time.

Adobe had fiscal 2010 revenues of US \$3.8 billion. More than half of Adobe's revenue is generated outside the United States. Adobe FrameMaker has an installed base of almost 9,000 customers and over 200,000 units sold. As of 2010, Adobe employed approximately 8,355 worldwide. Adobe has created world standards such as PDF and Flash, and popular tools like Photoshop. Adobe will operate for the long term, and will continue to stand behind its products.

## It's worth checking out

You can't afford to make a mistake in choosing the best authoring tool for your migration to structured content. Call Adobe at (206) 675-7076 to verify that FrameMaker 10 has the best ROI and lowest TCO for your organization.

\* Alan S. Pringle and Sarah S. O'Keefe. (2011). The State of Structured Authoring. Scriptorium.

\*\* Adobe-Lionbridge webinar "How to Win New Business within Your Clients' Tech Pubs Departments" (2010)

\*\*\* Adobe Technical Communication Suite Aberdeen Whitepaper "The Technical Communicator's Transformation - Publishing On-Time and On-Quality"

\*\*\*\* This Major Device Medical Manufacturer (referred to MMDM) is a Fortune 500 company. Corporate policy prohibits the company name being used to promote any products and services. The company did consent to have the "Adobe" FrameMaker" and DITA - Reducing translation and publishing costs" solution brief with Adobe FrameMaker and GPI's innovative translation services documented anonymously for the benefit of others.

Adobe FrameMaker has an installed base of almost 9,000 customers and over 200,000 units sold.

For more information  
[www.adobe.com/products/framemaker](http://www.adobe.com/products/framemaker)



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