

# Case Study: Freescale Semiconductor, Inc.

## Freescale Engineers Breathe Easier with oXygenXML

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~Denise Cannon  
Information Development Systems  
and Methodology Manager



**Freescale Semiconductor Inc (FSL)** is a global producer of semiconductor chips and related components. As part of its ongoing effort to streamline and automate its management of the complex documentation that supports sophisticated semiconductor devices, Freescale has implemented a DITA-based XML documentation system.

In early 2006, Freescale Semiconductor, Inc., a multinational corporation with operations in 19 countries, found themselves in a technical documentation nightmare. The disconnect between source content produced by their global engineering staff and customer-facing documentation created by technical writers led to errors, omissions, slow time to market, and dissatisfied customers.

In 2009, after much internal analysis of their design flows and authoring processes across the company, Freescale made the move to structured authoring, namely, DITA XML, to support more rigorous content reuse.

By 2012, Freescale celebrated several significant wins which included:

- Converting tens of thousands of unstructured FrameMaker files to XML
- Implementing a new, centrally managed component content management system (CCMS)
- Creating robust content reuse practices that minimized handoff between departments
- Improving technical accuracy by >30% by connecting databases of source content to the CCMS through APIs
- Training over 1,500 global users, including technical writers and design, verification, and applications engineers, on the new tools
- Proving the ROI of single-sourcing topic-based content, including more frequent updates of customer documentation and >40% faster time-to-market

The Freescale team even received industry-wide recognition for “outstanding vision, tremendous efficiency, and a transformative process that truly integrates information development as a value-add throughout the entire product development life cycle.”

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But, despite these successes, they still had one significant kink in their otherwise impressive toolchain: their authoring tools.

“We were asking the company to undergo a lot of change in the beginning. So, we decided to keep the authoring environment simple to ease adoption. We soon discovered the “simple” editor was too limited. It didn’t take long for users to start finding other solutions,” said Denise Cannon, manager of the Information Development Systems and Methodology team responsible for the structured authoring environment at Freescale.

## The Leaning Tower of Authoring Tools

Before long, multiple XML editors, text editors, and desktop publishing applications were being used to author content in XML.

Typically, the use of multiple editors would not be a problem. But, these “out-of-the-box” editors included unsupported features, templates, and map types that confused many users. And they did not connect directly to the CCMS, adding multiple steps to the check-in/check-out, authoring, and editing processes.

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To further complicate matters, because the authoring tools were not centrally managed, users were responsible for managing software updates, getting license renewals, and managing customization options.

For the dedicated technical writing staff, this was an inconvenience.



For the engineers, who sometimes went weeks without needing to write any content, managing the structured content tools became unmanageable.

“As adoption of XML spread across the company, the authoring environment started to resemble the Leaning Tower of Pisa. Not only were we afraid it would collapse under its own weight, we still couldn’t perform advanced tasks. It was time to fix it,” Cannon says.

## oXygenXML Stabilizes the Tower

After a rigorous evaluation period in which Freescale compared many XML editors and tested them against a spreadsheet full of

detailed requirements, two editors received overwhelming support.

The final decision, however, came down to just a few key objectives:

- Ease – of use, customization, distribution, and management
- Cross-platform – enabling engineers to work within their preferred operating system
- Seamless integration – simplifying access to the toolchain and allowing users to perform critical functions from the editor

Without question, Freescale’s number 1 priority was ease of use. Because of infrequent use by nearly 1,500 engineers around the world, their ideal authoring solution would mimic standard office productivity software they were already familiar with.

While the full-featured oXygenXML did not fit this ideal, Freescale found that oXygenXML lived up to the promise of being simple to configure. A small team of 2 software developers and a business analyst tailored the editor’s user interface and functionality to meet the needs of the different user types.

As a result, engineers were now able to produce structured content using Freescale-specific maps and features without having to know much about DITA. And, as a bonus, they could work in the operating system of their choice, which, for most of the engineering teams, was Linux.

For the technical writing staff and other advanced users, they created a more feature-rich editor that exposed the underlying DITA and structured authoring environment.

Another high priority was improving productivity. Using oXygenXML’s plugin architecture, Freescale integrated it with their CCMS and successfully reduced their 7-step process for downloading content to just 2. They gave users a single point of entry and the ability to perform critical actions such as database searches, preview, check-in/check-out, and opening multiple files from the XML editor.

“By choosing a single, easy-to-use authoring tool and using it as the entry point into our CCMS, we simplified our users’ jobs. Now, they can focus on contributing technical content, not struggling with the tools,” said Cannon.

The other high-priority issue they had to fix was managing updates. By using oXygenXML’s package management service, Freescale created a way to centralize the distribution and management of upgrades so that users

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no longer had to deal with software upgrades or licenses themselves.

## Freescale's Structured Content Innovation is Back on Track

Within eight months of deployment, Freescale had retrained nearly half of its existing user base. They'd also trained approximately 300 new users who'd never worked with structured content before.

The response has been positive, creating many new advocates in Freescale's engineering community.

Because of the built-in simplicity of working with oXygenXML, Freescale was able to:

- Configure and customize the interface and feature set according to the needs of the diverse user base within Freescale.
- Seamlessly manage the deployment of oXygenXML updates to the entire user community.
- Support complex XML processes and content reuse strategies.

Freescale has also created an environment in which engineers are much happier to work with new processes and content development technologies.

"We had a long list of detailed requirements. But when it came down to it, there were only two critical needs. We needed to make it easy for users to do their jobs, and we needed an XML editor that supported our advanced processes. With oXygenXML, we were able to do it all. Now we are back on track," says Cannon.

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Syncro Soft is a privately held software company founded in 1998 with a large area of expertise in XML technologies and single-source publishing. The main product, Oxygen XML Editor, provides the best coverage of today's XML technologies.

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