

IBM MICROELECTRONICS INNOVATES WITH A DITA-BASED INFORMATION STRATEGY TO ACHIEVE FIVE TIMES ROI

A DYNAMIC PUBLISHING SOLUTION BUILT ON QUARK XML AUTHOR AND IBM FILENET CONTENT MANAGER IMPROVES COLLABORATION AND ACCELERATES TIME-TO-MARKET

Enormous stakes are on the line in high-tech manufacturing. Inefficiencies in the sharing and delivery of technical information can delay product releases, jeopardise customer and partner satisfaction, and lead to millions in losses — for both manufacturers and their partners. In many cases, inefficiencies in the creation and management of information are caused by outdated software that requires technical experts to undergo manual, labour-intensive, and error-prone authoring processes.

However, an information strategy built on DITA and advanced dynamic publishing technology can help manufacturers improve the creation of information by empowering all content contributors to author intelligent content, thereby increasing collaboration, enabling content reuse, and allowing for automated multichannel delivery.

To maximise the process of creating and sharing the semiconductor design manuals that drive their business, IBM Microelectronics, a leader in the development of advanced semiconductor technologies, developed a DITA-based information strategy. Using Quark XML Author integrated with IBM FileNet Content Manager,



IBM Microelectronics leverages DITA to streamline the process of authoring and managing the content of its design manuals as intelligent components. The content of the manuals can now be dynamically published among customers and partners, which has increased productivity and will save the company millions of dollars in the coming years.

Ann Rockley, president of The Rockley Group and recognised XML expert, agrees that companies in manufacturing, such as IBM Microelectronics, must adopt a publishing strategy built on structured content. She says, "Intelligent content is content which is not limited to one purpose, technology or output. It's content that is structurally rich

and semantically aware, and is therefore discoverable, reusable, reconfigurable, and adaptable. It's content that helps companies and their customers and partners get the job done."

Information Drives Business

"IBM Microelectronics develops the semiconductor technology used in the chips for IBM's high-end servers and systems. We collaborate with a variety of business partners to develop this technology and, as an alliance of developers, we are able to better compete in the marketplace," said Chris Schnabel, Senior Engineering Manager within the Semiconductor Research and Development Center for IBM Microelectronics.

In order to work with its community of partners and customers, IBM Microelectronics publishes design manuals that are shared with developers worldwide. The design manuals include complex information that ranges from descriptions of the semiconductor technology to the rules for designing and building the chips.

"It's all about information. The most important thing our group provides to our business partners isn't the technology, but information about the technology," said Schnabel.

Ensuring the timeliness and quality of the information within IBM Microelectronics' design manuals is critical, and Schnabel's team was finding it difficult to rely on outdated publishing practices - built on tools such as Adobe FrameMaker — that require technical experts to undergo manual, labour-intensive, and error-prone authoring processes.

"The information we generate is extensive. When printed, our design manuals are measured in inches. It's a lot of information, and we had to find a better way to deliver it to our customers," Schnabel continued.

Planning for Innovation

As the project manager in charge of design rules and methods within the Semiconductor Research and Development Center, Schnabel was confident that his team could develop a new and innovative way to publish IBM Microelectronics' design manuals. Working

CHALLENGES

- Information must be authored once and readily accessible
- Users must be able to create XML/DITA content in a non-technical environment
- Information must be stored as searchable data
- Access to data must be controlled based upon user rights

SOLUTIONS

- Quark XML Author for Microsoft Word
- IBM FileNet Content Manager

RESULTS

- Information is easily shared among system users, partners, and customers
- Access to content is controlled based upon contractual agreements
- A standard word processing tool as the DITA authoring environment allows for quick user adoption
- DITA provides flexibility for publishing while supporting the requirement to treat content as data
- Increase in productivity translates into millions in savings

closely with Senior IT Architect Alex Martin, the team underwent the process of analysing their current publishing process and adopting a new solution for creating, managing, and automatically publishing information online and in print.

"Speed and accuracy are incredibly important to our semiconductor business. The sooner we get our information to our customers, the sooner they can deliver the products that are important to their business," said Martin. "We needed a solution that would accommodate

hundreds of authors supporting thousands of consumers in a controlled, rapid fashion.”

In addition to increasing speed and accuracy, IBM Microelectronics wanted to move away from a monolithic publishing process to a component-based approach that is repeatable and standardised. The solution needed to allow content to be:

- Authored by hundreds of non-technical knowledge workers
- Readily accessible, so it never has to be transposed or re-entered
- Stored and searchable
- Contractually controlled and filtered based upon users’ rights to see the data
- Published to customer-preferred channels

“When looking for a new publishing solution, one of our key requirements was that users have access to an authoring environment that they were already familiar with. Another requirement was that the solution integrate easily with our existing technology, and be managed from a centralised content management system,” said Schnabel. “We also needed a solution that allowed us to deliver content to our customers through a Web page, as a PDF, or in machine-readable format.”

Creating Intelligent Content

To achieve these requirements, Schnabel and his team determined that the IBM Microelectronics’ design manual contributors would need to begin creating intelligent, structured content in XML.

XML is a flexible standard for creating common information formats that can be shared through multiple delivery channels, such as the Web, mobile devices, and a variety of print formats. It is the content authoring format used when information needs to be shared in a consistent, secure, and reusable format.

DITA (Darwin Information Typing Architecture) is an XML-based standard for authoring and sharing technical information. It defines a common structure which promotes the consistent creation, sharing, and reuse of content.



The dynamic publishing solution enables users to create content that is structured and mapped according to XML and DITA standards for automated delivery to print and Web.

DITA requires authors to create content in XML, and even tools that aim to help non-developers learn how to code in XML can be difficult to use. Like most organisations, IBM Microelectronics did not have the time or resources to undertake the direct coding of DITA or learn complicated authoring tools. The team was interested in finding a solution that hid the DITA coding altogether.

“Our authors’ primary role is to create content — not to become DITA experts,” said Martin. “We looked at almost every leading tool for creating DITA content, but they were tools that our authors would have to take time to learn, and we weren’t interested in stopping work to learn a new tool when we could easily create DITA in a standard word processor using Quark XML Author.”

“WE INTEGRATED QUARK XML AUTHOR WITH IBM FILENET CONTENT MANAGER BECAUSE IT ADDRESSED A LOT OF THE PROBLEMS THAT WE NEEDED TO SOLVE.”

— CHRIS SCHNABEL

Quark XML Author is an add-in to Microsoft Word that lets anyone create XML documents — without seeing tags, being constrained to boxes, or being aware of the technical complexities associated with XML. Quark XML Author also ensures that the content an author creates is constantly validated against the XML standard, eliminating the need to rework content at a later time.

Quark XML Author and IBM FileNet Content Manager

IBM FileNet Content Manager, the core content management solution for the FileNet P8 platform, is a content, security, and storage management engine that supports DITA.

“We integrated Quark XML Author with IBM FileNet Content Manager because it addressed a lot of the problems that we needed to solve. We needed to be able to easily edit and publish information, deliver the information in a variety of forms, control and reuse the information, and provide access to the information based on what each user or partner is allowed to see,” said Schnabel.

IBM Microelectronics’ authors create documents with Quark XML Author and check-in and check-out the documents using IBM FileNet Content Manager. As soon as an author creates a document or makes edits to a document, the content is instantaneously available for everyone in the organisation to see, allowing the team to react quickly and efficiently to the new information.

“With IBM FileNet Content Manager and Quark XML Author we can do a lot of things we couldn’t do before. Multiple authors can edit content at the same time and funnel that information to a single point that we can expose to our customers,” said Schnabel.

Increased Productivity, Decreased Costs

IBM Microelectronics has migrated technical writers from FrameMaker to Quark XML Author, and is also transitioning a larger group that includes design engineers, semiconductor characterisation engineers, and modeling engineers. These groups are not responsible for technical writing, but now are able to contribute valuable input to the design manuals in a structured way that is comfortable and familiar.



Business users can create content in a structured way without the burden and complexity of traditional XML authoring tools.

Prior to implementing Quark XML Author with IBM FileNet Content Manager, a handful of technical writers were responsible for creating the content for IBM Microelectronics’ design manuals. The technical writers would create content and manually solicit feedback and edits. Now, the manual’s content is created by a community of 200 technologists, and is open to thousands of developers and engineers working on the technology. The process for creating and editing the content has been streamlined dramatically and, in turn, the quality of the content has improved.

“QUARK XML AUTHOR ALLOWS ME, AND ALLOWS ALL THE AUTHORS IN OUR ORGANISATION, TO BE XML AUTHORS AND NOT HAVE TO KNOW ANYTHING ABOUT XML.”

— ALEX MARTIN, IT ARCHITECT, IBM MICROELECTRONICS

By increasing collaboration among experts to author the design manuals, improving the publishing process, and expanding the delivery channels to better serve key business stakeholders, IBM Microelectronics:

- Decreased the time from creation of content to publication by 40 per cent (and expects the time savings to continue to improve)
- Plans to save millions of dollars in the coming years, which represents a five times return on investment

“We expect to see significant cost savings as a result of implementing this solution, both from the perspective of the productivity of our employees and because we’ve been able to simplify the process by which we create content,” said Schnabel.

“WE EXPECT TO SEE SIGNIFICANT COST SAVINGS AS A RESULT OF IMPLEMENTING THIS SOLUTION.”

— CHRIS SCHNABEL, SENIOR ENGINEERING
MANAGER, SEMICONDUCTOR RESEARCH
AND DEVELOPMENT CENTER FOR IBM
MICROELECTRONICS

ABOUT QUARK SOFTWARE INC.

Quark’s software enables organisations of all sizes to meet customer demand for engaging, relevant communications when, where and how they want them. Our solutions combine the power of XML with flexible layout and design to automate the delivery of customer communications to print, Web, and interactive experiences on the latest digital devices. Financial services firms, manufacturers, and governments around the world rely on Quark solutions to elevate customer communications to new levels, reduce time to market, and lower costs.

To find out more about Quark Enterprise Solutions visit www.quark.com/enterprise or contact us at www.quark.com/contact

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