

White Paper

Bringing Product Datasheets into the Information Age: Improving Time to Market and Driving Revenue Growth through Smart Publishing

"It's time to consider updating your publishing process, while at the same time enabling your engineers to focus on 'Job One' – designing innovative products that lead your market."

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Introduction

Virtually all component manufacturers use some form of datasheet, cut sheet, or catalogue to market their products to equipment manufacturers. If you're involved in marketing communications for a component manufacturer, you know that these documents are critical to launching new products – if the datasheet or an updated catalogue is not available, as far as your customer is concerned, neither is your product.

As important as these documents are, most companies haven't explored improving how they're created or distributed. In general, technical marketing documents have been passed over by the IT revolution. If you want to drive sales growth through more effective technical marketing documents, it's time to explore how recent innovations in document technology can improve the impact of your product marketing information. Process improvements and updated technology can also improve the accuracy of your datasheets, reduce new product time-to-market, improve the productivity of your product engineers, and cut document production costs.

What the marketplace is telling us

Xerox Global Services has spent a significant amount of time discussing datasheets with component manufacturers in the electronics, automotive, and aerospace industries. These are firms that primarily market their products through datasheets and catalogs, which in turn contain a high degree of engineering content. The following statements are typical of what we've been hearing:

Chief Marketing Officer – “Our customers want quick access to information about our products. This is just not easy to provide through PDFs. Datasheets from different divisions look like they're from different

companies – the branding is all over the place. It’s a challenge to manage consistency.”

CFO – “We’re already spending too much money on tech pubs – way too much SG&A and indirect expense. I’m actively looking for ways to cut non-essential staff.”

CIO – “The technology that tech pubs is asking for is expensive and time-consuming to deploy. It’s at the bottom of my list – not a priority. Besides, I don’t have the budget or the resources to support them. I’ve got bigger fish to fry – like realizing the ROI from our ERP project.”

Chief Engineer – “I want my application engineers spending their time developing products, not documents.”

Product Manager – “In the last weeks before a product launch, our applications engineers might spend 80% of their time getting datasheets written and validated –and then we’ll spend days or weeks waiting for tech pubs to produce the datasheet. We can’t even get status – sending content to tech pubs is like dropping it into a black hole. A product is waiting to ship and the datasheet is stuck in production.”

Quality Assurance Manager – “Inaccurate datasheets can be the root cause for product returns – sometimes worth millions in lost revenue! A simple typo can mean the product does not perform to expectations – the datasheet needs to be a precise, accurate description of the product.”

Tech Pubs Manager – “We barely have time to spell-check the documents at the rate they come in. On average I have to process ten or more datasheets a day, not to mention other documents like the annual report. Often, the best I can do is run basic checks for grammar and style, and look if the sections are all there and in the right order.”

Do any of these statements sound familiar? If so, we aren’t surprised, because we find that the

majority of firms we talk to face at least one of these issues. It’s not for lack of trying, however. There’s plenty of money invested in information technology.

Traditional approaches

Almost all firms we’ve interviewed are using a recent version of a desktop publishing application for content creation, usually Adobe FrameMaker, Quark Express, or Microsoft Word. We’ve seen a variety of creative solutions for data-driven drawings and other graphs using Microsoft Office tools like Access, Excel, and Visio.

We’ve found that most firms have implemented some limited form of document management or document control, most often for final versions of datasheet documents. Also, many firms publish electronic versions of datasheets through their web sites, usually as PDF files.

Why desktop publishing was a good idea (at the time)

If you think about current approaches datasheets described above, a common theme emerges: It’s all about the *document*. Not that long ago, all document content needed to be in the form of camera-ready mechanicals that were input to an offset printing process. Creating camera-ready mechanicals was expensive and required specialized skills, so you either worked with an agency or you hired tech pubs experts to bring the work in-house. Over time, that department migrated to desktop publishing systems (DTP) to reduce the costs and effort required for document composition. Eventually, the DTP composition tools became so user-friendly that you trained your engineers to use them, too, in order to capture the engineering content of the datasheets.

While desktop publishing brought the tech pubs department into the Information Age, it left your datasheets back in the Stone Age. When

engineering content changes, it needs to go through the desktop publishing process to become a datasheet. At the end of the day, the datasheet might as well be on paper – or even a stone tablet for that matter – because you can't communicate engineering changes at the speed of the Internet with a complex publishing process in the way.

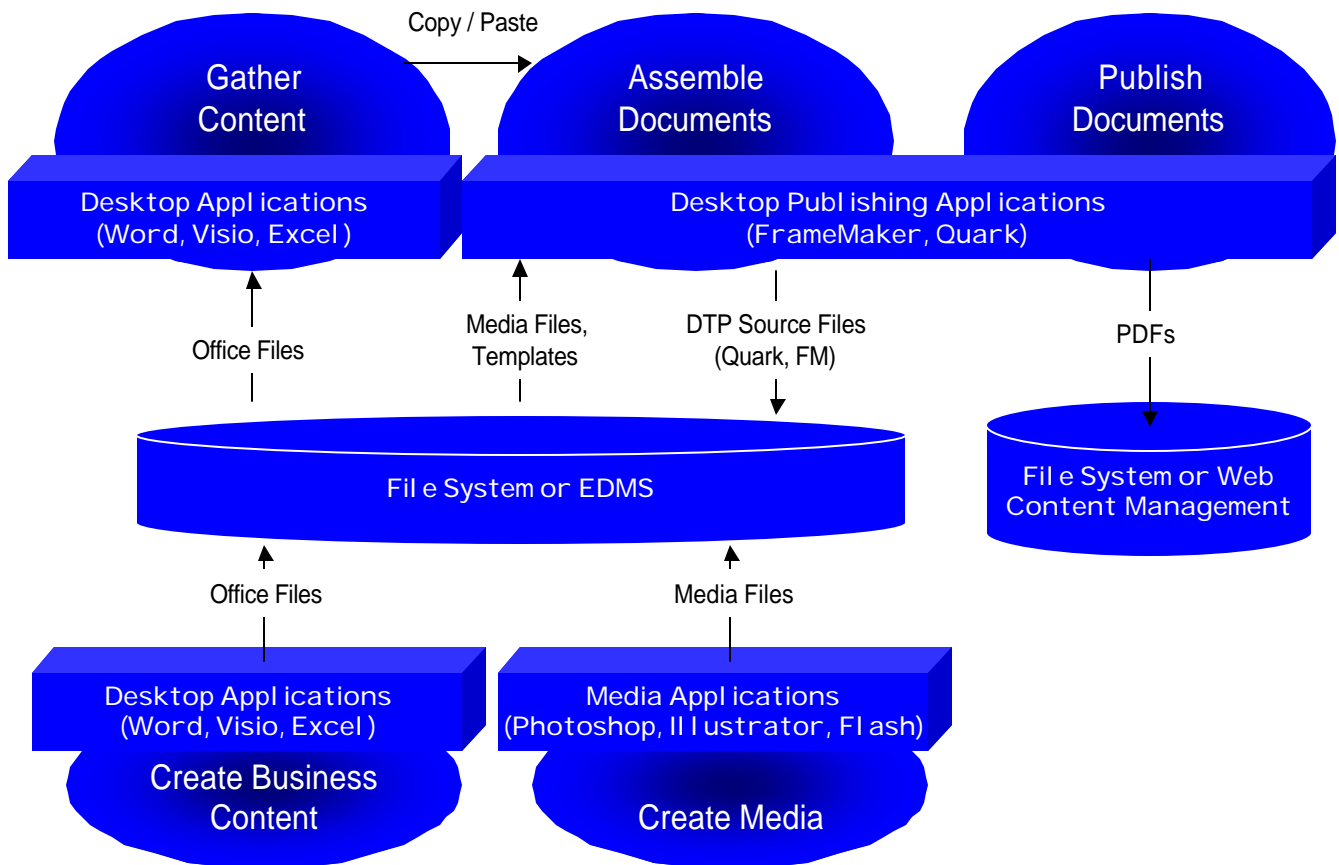
Focusing on document publishing takes your eye off the ball

We believe that – in most firms – datasheet publishing is much more complicated than it needs to be. It's complicated because too many activities are applied to the document – the *container* for technical information. Instead, to create real business value (such as increased sales, more satisfied customers, fewer product returns) you should focus those activities on the *content* of the document.

Datasheets are containers of technical content about your products. Datasheets are typically assembled in a standardized format out of collections of content from different sources in the New Product Development process; marketing content such as features and benefits; performance specifications including tables and graphs; physical specifications in the form of tables and CAD drawings; logical diagrams; and so on.

Most of these sections are “artifacts” of the engineering process – an engineer created the content as input to the product engineering process. Often, each piece of content started off in its own document container – an Excel spreadsheet, a table or text in a Word document, a Visio chart, or CAD drawing. These containers are often unmanaged – they exist as files on the engineer's hard drive.

When it's time to create a datasheet, the author has to relocate that information – often they have to ask the engineer that created the content



for the file. Next, the author copies and pastes that information into a desktop publishing application. Usually it's right around this point in the process that the engineering content gets "wrapped" in a container – the datasheet document.

Next the author uses the DTP application to format the document so it complies with company appearance standards. This involves fixing typographical look and feel, as well as arranging the content in the right sequence. Next, the author uses the DTP program to output a datasheet in a deliverable document format – usually high resolution PDF for print, and low-res PDF for the web. Sometimes an engineer is accountable for the datasheet, and does most or all of these authoring steps.

Once the datasheet "container" document is complete, it goes through a process for validation, approval, release, publishing, and archive or document control.

Why desktop publishing breaks business processes

The most serious drawback of the DTP approach is that it produces at least two versions of the content – the original engineering source documents, and the copies of that content embedded in datasheets or catalogues. To complicate matters further, many firms' datasheets contain dynamic content from databases, such as part number or pricing information. Synchronizing the datasheet with the latest version of database content can be daunting.

Because datasheet documents are typically managed separately from the engineering source content, it is difficult to assure that datasheets accurately reflect the latest engineering changes. Also, because of the complexity of the publishing process, new or revised content does not flow quickly to prospective buyers. Finally, a fair amount of labor goes in to validating,

publishing, and archiving the container (the datasheet) rather than the content. So, as we see it, the traditional approach to desktop publishing is the root cause of the business process problems associated with datasheets.

A better way

How can you manage engineering-intensive product information so that updates flow smoothly to your prospective buyers? The key is to separate the three main activities in the technical publishing process:

- Contributing technical content
- Assembling content into documents
- Publishing documents

In the traditional desktop publishing process, one or two players in the process often perform all three activities, and much of the activity is performed directly in the DTP application. This means that engineers need to know something about the publishing tools, and the tech pubs department needs to know something about engineering. By separating these activities and roles, we enable content to flow more freely throughout its lifecycle, and we simplify the process.

Managing engineering content

The information contained in datasheets starts its lifecycle in engineering. Engineering creates the content when they design the product. Engineering validates the content. Rather than repeating these steps as part of the datasheet publishing process, why not improve the engineers' ability to manage and track changes to content during new product development? Managing content closer to the source eliminates opportunities for errors to be introduced in the publishing process.

Engineers as *content contributors*. Our preferred approach is to enable engineers to play the role of "content contributors" in the

publishing process. We see little value in transforming engineers into desktop publishers or technical writers. Instead, we believe they should work the way they want within familiar applications like Microsoft Word, Excel, Visio, or CAD applications. This frees the engineers to concentrate on creating products rather than on product documentation. Various engineers contribute “chunks” of datasheet content – content objects – using desktop applications. They submit these content objects as files and check them in to a content repository.

The files that engineers contribute can be transformed into XML (Extensible Markup Language – a standard for text-based content) so that they become reusable content objects in the publishing process. This transformation can happen automatically as the content is checked-in. As an alternative, engineering content contributors can be trained to use XML editors like Blast Radius’s XMetaL, ArborText Epic, or Adobe FrameMaker to provide content that is native XML and ready to use as content objects.

Tech pubs specialists as *document assemblers*. Next, tech pubs specialists use structured authoring tools to assemble engineering content into documents like datasheets. Instead of copying and pasting content from engineering documents, we enable the tech pubs authors to point directly to the engineering content objects from within the structured XML document. The saved document contains pointers to the validated engineering content (such as sections of text, tables, or images), which is managed separately within the repository. This assures that only the latest validated engineering content is presented in datasheets.

The *document publisher*. Because the XML publishing process is heavily automated, the decision of *when* to publish can become a business decision, rather than a production decision. A tech pubs specialist or a process owner such as a Product Marketing Manager could fill the role of “document publisher” – the person who initiates the publishing process.

The publishing process can also be triggered automatically by workflow business rules that are applied when a content contributor or document assembler checks-in new or revised content. Checking-in revised content can also automatically trigger review, approval, and translation processes.

Automated formatting and multi-channel publishing. By separating *content* from *structure* from *format*, XML content can be managed independently from published documents; therefore content can be reused in multiple documents or formatted for different devices. Because formatting is an automatic process, it can be done consistently.

When a document publisher (or workflow process) sends a structured document to be published, formatting software *renders* the structured document into the final format. By *rendering*, we mean that the structured document (including the latest version of each of the content objects that it points to) is automatically formatted based upon style sheets that are specific to the output document format. For example, publishing could use one formatting process and style sheet for web output (which could contain dynamic content objects such as Flash or movie files), and another for printed output (which could use higher resolution static images and paginated text formatting such as headers, footers, and page numbers).

Structured authoring also assures that documents conform to structural guidelines. By using XML Document Type Definitions (DTDs), computer programs can automatically validate datasheets to assure that they contain all of the required sections in the correct order, eliminating the need for manual inspections.

Automated formatting also means that if changes need to be applied uniformly across all of your datasheets – like a change to your company logo – you simply change the style sheet, and then re-render all of the datasheets.

No need to repeat validation of the engineering content.

“Smart publishing.” Using content management, workflow, and XML publishing technology enables the latest product information to flow automatically and seamlessly to your prospective buyers. When engineers need to make changes, they checkout the engineering source documents, update the content, then check-in the revisions to the repository. The act of checking-in revised content can trigger the engineering review and approval process in the workflow system. When a decision maker in engineering approves the content via workflow, it can trigger the XML publishing process, automatically rendering datasheet documents in all of the required formats. If you require it, an engineering change can trigger “smart publishing” – the automatic generation of updated PDF and HTML versions of a datasheet, published to your web site – without intervention from the tech pubs department.

E-commerce support. Xerox has found that a growing number of firms also need to publish datasheet content in other formats, including XML content that can be loaded into an enterprise system or published within a web portal. Often this is the firm’s own CRM or ERP application; sometimes it’s the supply chain management (SCM) or ERP system of one of their customers. This enables prospective buyers to get direct access to product information within an enterprise system. In the electronics industry, XML-based standards including RosettaNet and SEMI define how trading partners can exchange product data. By managing product information in XML from cradle to grave, firms not only expedite their technical publishing process and cut costs, but also enable top-line revenue growth by increasing awareness and consideration of their products with prospective buyers.

Conclusion

If you want your customers to be aware of your latest products – and have customers consider your products in more purchasing decisions – it’s time to reexamine your process for technical marketing communication. Desktop publishing of datasheet documents is not the most effective way to communicate with your customers – *and* it’s slow, error-prone, and potentially more expensive than electronic publishing. It’s time to consider updating your publishing process, while at the same time enabling your engineers to focus on “job one” – designing innovative products that lead your market.

About the Author

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Xerox Global Services helps companies streamline and digitize their document-intensive business processes—everyday processes like customer communications, billing, training, or record management. Our people work closely with clients to identify, quantify, and realize hidden opportunities to save money, find new sources of value, and simplify how work gets done.

The Xerox Enterprise Publishing Solution and XML Publishing Services

Most tech pubs departments are well informed of the potential benefits of using XML to automate the publishing process and facilitate content reuse. Unfortunately, they often lack the skills and budget required to implement and deploy an enterprise XML publishing solution.

Fortunately, Xerox Global Services provides a turnkey solution including hosted content management, workflow, data integration services, and XML publishing capabilities in an ASP model. This enables tech pubs organizations with limited resources to integrate their desktop applications including office, media, and structured authoring solutions with a repository that Xerox configures to their unique needs. Xerox manages and administers the entire infrastructure including hardware, software, and facilities.

Worldwide secure access. The hosted solution is secure and Internet accessible, so that you can integrate content contributors, document assemblers, and document publishers anywhere in the world into a coherent workflow that speeds time to market and improves the flow of product information to your customers. All of the capabilities for content management and XML publishing are available as web services.

Easy to implement and deploy. The user interface is simple to use and uncluttered, enabling fast deployment and rapid adoption throughout your enterprise. Implementations take less than a third of the time required by a typical enterprise content management system, and learning curves are much shorter.

Lower capital expenditures and operating costs. Substantially less upfront capital is required to implement a hosted solution, because Xerox has already made the investment in the servers, facilities, and enterprise software. Users of this infrastructure pay a charge to configure it then a monthly fee based upon usage. The on-going costs are lower than the operation, administration, and maintenance of an on-site document management solution.

World-class XML skills. Few tech pubs or IT departments have the skills required to design and implement XML publishing. Xerox offers consulting and integration services to configure the platform to your unique requirements. This includes taxonomy design; document design services (including reuse analysis and Document Type Definition (DTD) development for XML and SGML documents); metadata definition; and customized publishing environments including XML stylesheet development.

Legacy content services. Often firms are saddled with complex legacy document requirements that prevent them from migrating to XML. To help in this area Xerox also offers outsourcing services for legacy content conversion (text, graphics, and CAD files), technical illustration services, and publishing services including digital print on demand, inventory management, and fulfillment and distribution services.

The Xerox Enterprise Publishing Architecture

