



# Publishing in the automation era

## Douglas S. Liles

is Strategic Business Development Manager for Quark Inc., developing OEM channels for enterprise class technologies. He has a long career in the advertising, marketing and publishing industry working as a Business Development Director in the technology group of one of the nation's top printers, VP Sales and Marketing for an Adweek listed top 100 interactive company, working as an account executive for an innovative print and design marketing firm and a marketing manager for a diversified printing company that served the hospitality industry. He sold his first interactive project in 1995 to a leading insurance company and implemented an early DAM system in 1998 for a top entertainment company that has a rodent as a mascot. He and his family live outside Boulder Colorado.

**Keywords:** DAM 2.0, dynamic publishing, vertical segmentation, MOM, MRM

**Abstract** DAM as an industry still provides primarily a horizontal application. For those end user customers who have bought DAM systems, the impact is certainly understood. Is DAM really an accelerator technology for communications or is it just a foundation component for other tools? What constitutes a best of breed DAM solution? What is the future of DAM?

*Journal of Digital Asset Management* (2007) 3, 10–16. doi:10.1057/palgrave.dam.3650062

## IMPETUS

Ask yourself this question: Do C-level executives at end-market firms really understand the value of DAM? Does that understanding vary between visionaries and laggards? Is DAM providing the market advantage that software companies purport? In addressing an audience that is obviously converted and believes in DAM solutions, I will provide a mildly different view and a vision for the future generation of DAM derivatives.

This vision is driven in response to commonly heard statements in the industry:

- End user firms don't know how to buy DAM solutions.
- The sales cycle is long and heavily burdened with pursuit costs.
- Solution providers have difficulty confidently stating the ROI of DAM applications.
- The DAM market space has an uncertain future.

I must side with the end user customer base. My argument around DAM restates the customer point of view that DAM is no more than a point solution — providing real benefit to a small group of stakeholders.

To be truly viable, DAM must evolve beyond a point solution to become a foundation technology for publishing that enables more rapid publishing and distribution foundation technology to provide greater value to stakeholders. The next step for DAM vendors

can be earth shattering. To avoid marginalization, DAM vendors must evolve into broader application providers per the following options:

- Merge or partner with market leaders in adjacent software categories.
- Provide innovative value-added workflow solutions to deflect open source technologies (such as Alfresco TM).
- Adapt business models (ClearStory® System Hosted/ASP approach or IBM®'s mainstreaming of Software as a Service [SaaS] come to mind).
- Act as provision adapters to other applications — or face the risk of irrelevance by leaving consolidation to occur in a mature market.
- Re-engineer their products to meet emerging market needs.

We see evolution in the marketplace now — certain enterprise content management (ECM) vendors are tightly integrating DAM into their portfolio; records management and DAM markets are converging and companies such as OnRequestImages.com, Inc. are providing innovative service portfolios on top of their core DAM system. This trend suggests that DAM is a foundation technology for several leaps into new categories that remain undefined by the major analyst firms. Obviously, the market needs DAM, but the current portfolio of technologies does not address the broad and ever-changing needs of the marketplace.

Douglas S Liles  
Strategic Business  
Development,  
Quark Inc.,  
1800 Grant Street,  
4th Floor, Office R-419,  
Denver, CO 80203-1131,  
USA  
Tel: +1 303 894 3580;  
E-mail: dliles@quark.com

## DAM 1.0

DAM as an industry still provides primarily a horizontal application. Capabilities for indexing, asset handling, searching, file transformation and distribution are the key modules in the core technology. Digital Rights Management remains a hot topic, but that functional area is really a layer for managing the distribution component.

DAM remains essentially the same in principle based on what early market leader Canto<sup>®</sup> Software envisioned with the Cumulus<sup>®</sup> product in 1990 — although it is certainly more robust than ever now. Yes, there are vertical-specific flavors of DAM, but most vendors do struggle with differentiation among the most common file types (JPEG, DOC and PDF) on a functional level. With several mainline DAM players that have more than 17 years in the market space, it's becoming obvious to some watchers that the market has reached a new level of maturity that raises the question: What's next?

Although DAM is ubiquitous in many ways, in others it remains an anomaly. Niche software that is a point solution for fringe workgroups does not provide core functions to the enterprise.

Nonetheless, those companies that have invested in DAM cannot live without these technologies to drive efficiency. Printers and prepress companies cannot imagine managing client files on their servers without tools from Xinet<sup>®</sup> and others.

What do we know? Although most end users might be confused about how to define their unique requirements for DAM, practically all vendors provide excellent systems for the purpose of creating a library of files that can be searched, classified, utilized or distributed — alleviating the digital chaos that existed when file systems were the norm. Obviously, the management value proposition still does not resonate with the market to encourage most organizations to invest in a DAM solution that will benefit from library services alone.

## ROI: IT'S STILL A ROUNDING ERROR

For those end user customers who have bought DAM systems, the impact is certainly understood. Repetitive operations cease, content is shared, distribution is more cost effective, version control is improved and documents

are more accessible — among other benefits. Nonetheless, most organizations obtain comparatively low yield from such systems. Although they might reduce headcount and improve productivity inside creative workgroups with significant departmental improvements, the impact on the enterprise brand is debatable.

Personally, I recall working on a DAM point solution for a production workgroup within a durable goods company that would yield a significant *hard cost* reduction of 25 per cent within a \$250,000 approximate annual budget. Unfortunately, the impact was negligible for a departmental marketing unit with a \$9MM± spend. The soft-dollar argument just didn't bite, and the technology was deemed as “nice to have,” but certainly not strategic in the company's view. This particular company did eventually purchase a DAM solution that was a component of a larger solution — and I will cover that solution later in this paper.

Given such results, the big question is: Is DAM really an accelerator technology for communications or is it simply a foundation component for other tools? My argument is the latter.

## YES, IT'S ALL ABOUT WORKFLOW

When Artesia Technologies (now part of Open Text) introduced TEAMS, the solution was somewhat of a radical step in the DAM marketplace. The notion of providing workflow with a DAM solution was popularized. Although it's debatable as to whether this version of workflow collaboration was effective (TEAMS utilized email as the primary messaging tool), the concept of providing broader value to companies beyond the core DAM application resonated with the marketplace.

The significant acquisition of eRoom<sup>®</sup> by Documentum (now EMC Software) is another horizontal play at providing a platform for workflow; this acquisition complemented the Bulldog solution Documentum had acquired along with eRoom's base document management application.

Arguably, the challenge for DAM is that it is a horizontal solution that does not address specific needs for various vertical markets.

Consider the following samples:

- Financial services companies need to maintain records for documents that have been delivered to a consumer through a variety of media.
- Brands need to distribute content via complex rules to retail distribution with highly variable SKU types based on channel that is time sensitive in terms of shelf life.
- Retailers need to publish appropriate product information in detail that persuades consumers to buy.
- Entertainment companies need to manage a variety of media components (eg TV, radio, print and packaging) for a campaign.

The context for each requirement for DAM is dissimilar based on vertical requirements. The workflow issues are dramatically different for each when considering indexing, retrieval, media usage, metadata attributes, security and other primary requirements.

Considering how many DAM solution companies have come to market with a horizontal stance, that approach somewhat flies in the face of “best practices” for taking technology products to market, per the vertical segmentation techniques evangelized by Geoffrey Moore, author of “Crossing the Chasm.”

It might be time for the DAM industry to back up and re-examine the problem it is attempting to solve and the customers for whom it is producing a solution. Do marketers need to shorten their production cycle to drive sales? Do urban police departments need to manage large numbers of images associated with case files? Do agencies need “push-button” campaign deployment to multiple media types?

I’ve often seen DAM companies stretch the description of a product to say how a particular horizontal application might fulfill a vertical need and then offer an abstract discussion about vertical workflow, but most risk-adverse end user companies really are concerned about seeing functional components that are literal, usable and understandable. This gap between product promise and customer acceptance has stalled sales of next-generation DAM technologies.

## THE UTILIZATION CHALLENGE

Seamless utilization across media types remains a challenge. Many web content management

(WCM) and ECM systems integrate seamlessly with DAM systems, driving efficiency for their constituency. Native image-file formats are called from libraries, transformed, placed in accordance with style sheets and published to the web on the fly with robust performance. Interwoven’s integrated suite of ECM and workflow tools work well with the MediaBin TMDAM application, enabling editors to focus on creating and distributing content for audiences without giving much thought in regard to production.

This workflow ideal is not so simple with all media. Asset placement in video and print still remains a craft endeavor. With more than 18 major rich media classes, including web, email, mobile, kiosk, interactive/gaming, streaming video, broadcast video, radio, electronic documents, collateral, catalogs, direct mail, magazine, newspaper, packaging, POP/in store, out of home and premiums, true media production agility for even simple assets such as TIFF files remains convoluted when considerations are made about the requirements for the individual media specifications.

Multi-channel publishing is inhibited by color space, browser requirements, aspect ratio and context within the presentation format. For marketers specifically, these factors cannot create a barrier; getting communications into the hands of consumers to drive response cannot be a barrier in delivering messages to an active, dynamic, 24/7, multi-faceted world.

## COLLABORATION IN THE ENTERPRISE

Clearly, when making new investments in DAM and other publishing technologies, connectors must be made to enable close integration with other systems, especially Customer Relationship Management, ECM and ERP tools.

Organizations need more visibility to content associated with an offer, a product or a publication. DAM companies must focus on their systems integration value to remain viable.

In specific industries, DAM may be only a small component of a more broad application, such as Product Information Management. Companies such as Stibo Catalog and Enterworks<sup>®</sup> provide more than image versions for a specific SKU or part number. They aggregate and distribute product data to a

variety of media channels. It doesn't make sense for a durable goods company or retailer to solely publish image data with metadata attributes. The whole realm of content must be expressed to be understood by the recipient.

The emerging Enterprise Marketing Management (EMM) space, which continues to develop from strains of campaign-based workflow technologies — formerly known as Marketing Operations Management and Marketing Resource Management — will continue to define the future of DAM as brand campaigns' needs to deploy in ever-faster succession in a fast-moving world.

## THE BOTTLENECK

Many of us in the industry remember the desktop publishing revolution. Mechanicals and rubilith went away. Expensive proprietary typesetting systems disappeared. Users began to assemble complex communications documents on computers. SGML and XML appeared in short order. The digital asset chaos ensued, creating opportunity for the industry.

Nonetheless, one thing hasn't changed: Document creation for the most part (aside from the Microsoft® Office Suite) remains in the hands of highly trained specialists who work on desktop systems to produce media for print, web and video. Publishing remains a craft business. Although these users may be able to search and download digital assets relatively quickly, assembly and media-specific production remains comparatively slow. Most DAM systems remain disconnected from media-production tools, such as QuarkXPress®, Adobe®, InDesign®, DreamWeaver® and Microsoft Office 2003. Seamless flow between servers and the desktop still needs improvement. Desktop products also need to be DAM or ECM "aware" so that connectors can bridge to corporate asset repositories.

I'll provide an example: If a retailer follows a 16-week cycle to produce a printed circular and a DAM system enables that retailer to reduce production time by 20 per cent, the net cycle time will become 12.8 weeks. Good, but is it really enough when retailers can manage inventory levels and distribution on a daily basis by analyzing point-of-sale sales through demand chain systems from JDA®, Oracle® and others? Retailers go to market every week and target

specific events such as Christmas, Memorial Day and Labor Day and every major promotion in between. Retailers need to alter their merchandising and promotional content to be as nimble as the market factors. Enterprise-class business systems outpace the ability to produce communications with conventional desktop publishing tools.

During a visit I had with a leading consumer packaged-goods company, a product manager remarked, "We can produce a package variant in the plant faster than we can do the graphics for the box. There's no way we can do on-demand product promotion with our package using current publishing practices."

Microsoft's recent release of Expression™, which features a consolidated suite of media productions tools, is an intriguing approach to dealing with the asset-utilization issue for the desktop user. Apple also addresses the issue by providing basic desktop DAM functionality with iPhoto®, which can be readily accessed by applications such as Keynote, Aperture and Pages. The recent Apple® acquisition of Proximity is very telling in terms of where the market is going.

The next generation of DAM tools will need to closely integrate with media-production suites and other systems to keep pace with business requirements.

## THE NEXT PUBLISHING REVOLUTION

Publishing is moving toward automation. We see server technologies from Quark and Adobe begin to gain increasing visibility. Various parties who have integrated DAM are already utilizing QuarkXPress Server as part of comprehensive dynamic publishing solutions. SGML publishing has evolved into XML publishing, and evolution leader Open Text is embracing DAM wholly with the Artesia acquisition, making technical documents much more graphically intensive. Composition-engine technologies from Document Sciences and Exstream have become more "rich" in their graphic handling. DeskNet Inc. provides a comprehensive publishing platform for financial document publishing that includes DAM as part of its rule-based document creation system.

Document construction is moving away from the desktop to smart templates that construct

communications for various media based on business rules. DAM obviously is built in. No longer do business users need to wait for a graphic artist to assemble every communication. Catalogs, brochures, outbound email, PURLs and other documents are regularly built by casual users leveraging basic web applications in self-service mode through tools such as HyperPublish from GLUON or XMPie®.

Collaboration continues to gain even more momentum. EMC Software's Documentum eRoom and Microsoft Sharepoint® 2007 technologies will be important to users who need version management and visibility of projects. Business Process Execution Language shows some promise for providing workflow/collaboration standardization for stakeholders who have multiple systems.

Online proofing technologies, such as Informative Graphics Brava!® or Kodak®'s Matchprint Virtual are obvious layers on top of DAM that can provide additional value to existing systems.

Automation and collaboration are not limited to only server applications: Peer2Peer technologies (such as in Skype™) also linger on the horizon as a collaboration technology. Integrated Color Solutions provides an example of remote-proofing technology as a layer on top of digital assets.

## CULTURAL ISSUES

Technology and business strategy is not the only challenge in the DAM rate of adoption. End user companies need to re-engineer how they approach and fund solutions for their business problems. In the marketing communications and advertising space, brands typically only invested in headcount, a few Macs and PCs, and some analytic software — with the remainder of the investment going to services. If CMOs are going to control the reins of their future, technology that can drive communications effectively to their user base must be a part of their portfolio. Most marketing departments are not accustomed to procuring technology-based services outside the realm of web development, so new disciplines will need to be cultivated to ensure success in buying such technologies. Developing these disciplines will require a deep knowledge of external, available technologies — and

more important — insight into the requirements of their own organizations. A major failure for many DAM initiatives is the failure to understand unique business requirements of an entity and inability for internal stakeholders to define needs in advance of solution procurement. For example, the needs for records management, document management and WCM are all quite different. There is room for multiple value points and business models. DAM solution providers must do a better job of communicating where they excel.

Smart marketers understand that technology can provide a competitive edge. By subscribing to the notions of best practices for deploying systems and acquiring look-a-like DAM applications, marketers are left without differentiation in how they deploy communications compared with their competitors. DAM systems must be flexible enough to conform to their target market workflow as opposed to being a single catch all for a user/role archetype.

Notably, creative agencies that would seem to be obvious users of DAM have often made blanket statements about the topic of re-using image content. A major agency product manager once responded to such a query about DAM: "The agency is paid to create the campaign. We pull a few brand elements together, but once we (the agency) are done creating the content, re-use is just important to the studio. Re-purposing and distribution to the channel is the brand's responsibility." Based on that statement, one would assume that campaign management is of greater importance to an agency and that DAM is only integrated as part of the package. A greater challenge for agencies is to migrate from the creation-production model to being a provider of turnkey campaign services that include technology. Selling the old "producer" model in which value is derived from talent and personnel is being challenged by the greater need to execute creative campaigns based on market reactions and opportunities, such as consumer behavior, inventory levels or transaction history.

## ARE FILE FORMATS A LIMITING FACTOR?

A continuing question will be whether file formats continue to be a limiting factor for market growth. JPEG specifications were first

written in 1983 and deployed in 1986. Media agile formats such as JPEG-2000, FlashPix and J-BIG have not caught on for various reasons — an unfortunate fact for the marketplace, where pent-up demand for cross-media publishing ease is inhibited by dated file formats. Media independence, rapid transformation and strong compression algorithms will continue to be a need in the market — especially as automated publishing drives mass personalized communications.

Notably, for digital print workflows, RIPing of traditional file formats is still a stumbling block in the production process. Could a pre-RIPed image file format with variable resolution help drive efficiency for that growing industry?

XML derivatives continue to hold great promise, although SVG is a nimble file format that has had lukewarm success. The XMP data standard is leveraged by all viable DAM companies for search and indexing, even though it still leans toward image asset handling as opposed to document referencing or event/version-based control.

Microsoft is pushing the envelope with its version of XAML contained within its Windows® Presentation Foundation/Everywhere (WPF/E), which is an innovative way to incorporate cross-media publishing for the Windows Vista™ platform. The Microsoft Expression suite provides a competitive offering for authoring and asset management for new media outlets — although the workgroup collaboration play is yet unclear.

## **DAM 2.0: A FORWARD-LOOKING POINT OF VIEW**

If we were to imagine DAM 1.0 as a car that provides functionality to move from point A to point B, DAM 2.0 will merely become the chassis. As odd as it sounds, assets are part of document communications systems, which are used to support strategic initiatives within an organization, including sales service, online catalog selling and case management. In certain instances, assets may be repurposed in many documents. In other cases, whole or parts of documents may be re-expressed through various distribution points. The foundation technology will be used to achieve real business value, driving sales, retaining consumers, enabling

customer service personnel to communicate effectively with consumers, providing risk mitigation for regulated industries and connecting disparate data so users can research and analyze information. DAM must evolve with allied technologies in the ECM, automated publishing or EMM categories so that business demands are not impeded. Simply having a vault that cannot be harnessed for ready utilization will not provide the ROI that stakeholders demand. “Push-button” publishing is becoming a reality as evidenced by blogging. DAM must evolve in order to fit nicely within the ecosystem of corporate and other organizational technologies so that publishing and retrieval can overcome production barriers.

We often forget that companies can provide strong steps in improving the overall user experience. Verity radically improved search as a fast, embedded technology for a variety of DAM solutions. Could a new or existing player in DAM provide a killer solution that would change the industry? In DAM 2.0, solution providers will leap to new levels of functionality or face open source disintermediation in their market share.

## **WHERE WILL THE MARKET GO: ECM OR EMM?**

It's clear that the records management, document management and DAM space will converge with the recent acquisition of FileNet® by IBM. Oracle's acquisition of Stellent™ also speaks volumes in terms of the importance for DAM, ECM and Document Management technologies to be deployed in concert. Choices for regulated industries (such as financial services, insurance and pharmaceutical) and government will be consolidated, although it will become more complex as solutions become more complete.

The creative market space will take some time to flesh out in terms of players. Obviously, ECM companies such as Vignette® are driving ROI with comprehensive publishing platforms for web initiatives. Add-on components from the automated publishing space (composition engines, dynamic publishing servers and XML publishing solutions) may enhance those WCM technologies by leveraging digital assets and other granular content for the print channel.

Emerging players in the EMM space such as Aprimo, Unica or Marketing Pilot have an opportunity to drive requirements and demand with their campaign-focused solutions. The campaign approach might have broad appeal as DAM does, but it might fall to the same issues of dilution because of a lack of vertical focus.

DAM will remain an essential foundation technology, but it remains clear that DAM in itself is not a viable solution without allied publishing platforms. Best-of-breed DAM solutions will partner, be acquired, merge or evolve into broader application systems to meet ever-changing market demands.

## **COMPANIES MENTIONED IN THIS PAPER**

Adobe  
Alfresco  
Aprimo  
Canto Software

ClearStory Software  
DeskNet  
EMC Software (Documentum)  
Enterworks  
FileNet  
Gluon  
IBM  
Infograph  
Integrated Color Systems  
Interwoven  
JDA  
Kodak  
Microsoft  
OnRequestImages.com  
OpenText (Artesia)  
Oracle  
Quark  
Stellent  
Stibo Catalog  
Unica  
Vignette  
XMPie