

National Geographic Reinvents Its Workflow with K4

DIGITAL COLLABORATION
CUTS WEEKS FROM
MAGAZINE'S PRODUCTION TIME

National Geographic magazine, the flagship publication of the National Geographic Society, is world-renowned for its stunning photography, distinctive maps and thoughtful reporting from around the globe.

Less well known is that behind the scenes, the magazine recently completed a major retooling of its editorial and production operations. A combination of a new editorial system and redesigned workflow is shaving weeks off the magazine's production process and boosting productivity across the publication.



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you can not only
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You can look at versions,
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...It really does give you
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putting out the magazine.”



Tim Appenzeller
Executive Editor, Text
National Geographic magazine

Case Summary

CUSTOMER

National Geographic magazine is the official journal of the National Geographic Society. First published in 1888, it has become one of the world's best-known and most identifiable magazines, with a worldwide circulation of nearly 9 million and more than 50 million readers every month. National Geographic publishes 12 monthly issues per year, plus additional map supplements and occasional special editions.

CHALLENGES

Find a modern publishing system integrating Adobe InDesign and InCopy that would enable 120 staffers to migrate from a labor-intensive, paper-based workflow to a streamlined, efficient, collaborative digital production process.

SOLUTION COMPONENTS

K4 Publishing System
Adobe InDesign/InCopy
K4 Notes Manager, K4 Overset Manager
PrimeBase Replication Server
axaio MadeToPrint Auto
Intranet portal fed by K4 and FileMaker database

RESULTS

- Revamped workflow shaved 3 to 7 weeks off the magazine's typical 15-week production time.
- Dramatically reduced costs associated with voluminous paper page proofing.
- Streamlined process fostered and improved collaboration across multiple departments.
- New system laid foundation for similar transitions at other NGS magazine titles.

CHALLENGES AND OBJECTIVES

National Geographic's two-year journey to revamp its editorial and production operation began in earnest in early 2006. At an offsite retreat held for senior staff to flesh out three-year goals, a major topic of discussion was workflow, and how lengthy and laborious the magazine's production process had become.

Bill Marr, executive editor for graphics, art and design, recalled some of the motivation behind the desire to change: "We had the sense that it didn't have to be this way. Many of the staff had worked the previous fall on the special issue about the Katrina hurricane. It took us 12 days, from the time we conceived it to the time we sent it to the printer, to produce that extraordinary issue." That rapid 12-day turnaround contrasted sharply with the magazine's typical 15-week production workflow — after photographs are selected and a layout designed. The staff recognized that its reliance on paper proofs inhibited collaboration and generated numerous extra steps as changes made their way back and forth between departments spanning multiple floors of the society's Washington, D.C., headquarters.

Technology also played a key part in motivating the group to change. The prior year, frustrated by its aging Quark Publishing System, the magazine had upgraded its desktop Macintoshes from OS 9 to OS X in preparation for bringing in new tools at both the desktop and system levels. The design and editorial teams wanted better tools for collaborating digitally. Marr, as head of the graphics teams, was eager to switch to Adobe InDesign, and quickly won support from the editorial team for the idea of using InCopy to facilitate fact-checking and text-editing within articles and maps, even after they were on the page.

Following the January 2006 retreat, National Geographic set up the Publishing System Review Project, a team charged with examining the current workflow and surveying technology in the marketplace to see how the publication could benefit from changes in workflow and accompanying technology. Nina Crane, at that time the society's director of media systems (now owner of and principal consultant at Kinetic Project Solutions), served as the top representative of the society's information systems department. A member of Crane's team, Russ Little, served as project manager for the evaluation and subsequent implementation. From the user side, Marr served as business sponsor, supported by representatives from editorial, research, graphics, maps and production. By May 2006, when it issued a formal request for information to prospective vendors, the project team had identified three key overall objectives:

1. Reduce editorial production time. The goal was to trim from 15 weeks to eight weeks the time between final photo selection and delivery of the issue to the printer. At the same time, the team hoped to move all articles onto a common editorial schedule and to shift the concentrated story work and deadlines into the first three weeks of the month, which would leave the last week available for developing new content.
2. Increase operational efficiency. It had become apparent that a reliance on paper proofs was inefficient as the primary means of conveying status, comments and changes. The team hoped to cut time and effort by moving to softcopy distribution of proofs, enabling staff to see text on layouts earlier in the process. Support for notes within the articles and layouts would enable editors to see comments made earlier by reviewers, rather than having multiple people mark comments on separate proofs, which someone else had to collate and then resolve. At the same time, the use of a digital status dashboard would enable staff to see easily who was working on each component, and what state it was in, rather than contacting one or more people to track down the status or latest version of an article or layout.
3. Review and improve publishing system functionality. As part of the switch from QuarkXPress to InDesign, the magazine staff wanted a publishing system optimized for InDesign that would provide the stability the current system lacked.

The selection of K4 was driven by how well it met the needs and objectives of the end users.

REDEFINING THE WORKFLOW

To facilitate the magazine's self-evaluation of its workflow, NGS hired Technology for Publishing, an MEI-certified K4 integrator and consulting firm with extensive experience in helping publishers re-engineer their workflows. Margot Knorr Mancini, principal and founder of Technology for Publishing, recalled how challenging it could be to change everyday practices at a large publication, especially one so steeped in tradition.

"When we started, everyone at National Geographic had their own way of doing things; no one could describe what their workflow was," she said. "We facilitated discovery sessions where we dug in and openly examined why things were the way they were. We were able to get to a point where everyone got the same understanding of the existing process and what it



Diagramming the process.

National Geographic staffers post notes on a wall to document and annotate their existing workflow at a retreat in early 2006. This workshop, and later ones facilitated by Technology for Publishing, helped the large and diverse group arrive at a common understanding of where it was and how it should change as it strove to shorten and streamline its production cycle.

(Photo by National Geographic senior photo editor Ken Geiger.)

would take to dramatically shorten the production cycle. This was a pivotal point in enabling NGS to move forward.”

Tim Appenzeller, Marr’s peer as executive editor for the text-editing team, credited Technology for Publishing for bringing discipline and focus to the workflow-definition process. “They were able to listen to us, hear our . . . very complicated descriptions of what we did and why we did it, and help us sort through what we were trying to accomplish and zero in on what was sensible and what wasn’t and think about new ways to achieve the goals that we had all along.”

Marr added that having an impartial outsider bring a clinical approach to the workflow analysis process helped keep the team on track: “If we had done it internally, it could have bogged down in months of bickering.”

■ PASSING THE TEST

By fall 2006, after reviewing potential suppliers and visiting other publishers, NGS selected MEI as its vendor and the vjoon K4 Publishing System running in conjunction with Adobe CS2 as the editorial system that best met the requirements established in the RFI.

Before committing to the purchase, NGS ran a pilot to test both the system and the organization’s new streamlined workflow. Technology for Publishing assisted during the pilot by building the test plan and objectives, creating the initial workflow configuration and helping the team to adjust both the workflow and the K4 setup as they grew more comfortable with the system.

According to Crane, the selection of K4 was really driven by how well it met the needs and objectives of the end users. “Our IT staff knew that success depended on users embracing the system. . . . Once [the users] had determined that K4 was the best fit from a functional standpoint, then our technical team thoroughly tested the technology to make sure it would provide the stability and performance that we needed.”

During the pilot, NGS put the system and MEI’s service team through its paces, carefully documenting the work as it progressed. Testing of the database replication server and its failover capabilities was a key component: NGS is located three blocks from the White House, and takes its disaster preparedness very seriously. Many organizations create plans for disaster recovery, but NGS took the time to test many possibilities and to document all of them meticulously so the staff would feel ready and confident should a system-threatening incident occur. “NGS asked us to expand the product documentation to include very detailed procedures for the backup and disaster-recovery processes,” said Bruce Frausto, an MEI solutions specialist who worked on the project. “They wanted to ensure that the business-continuity plan didn’t rely on knowledge confined to one person’s head. The resulting documents became a model that we now use with any new client requiring that level of security.”

The pilot ran successfully for several months in late 2006 and early 2007, as National Geographic refined its hardware, networking, document conversion and training plans. George Mahlberg, an MEI project manager during the pilot, credited the project team for its thoroughness in preparing the publication for the transition to live production. “They outlined very specific goals, supplied the appropriate resources and had no



problem asking questions, pushing and challenging the system,” Mahlberg recalled. “We provided what they needed, and they provided the appropriate environment for testing — a crucible, really.”

THE SYSTEM

NGS purchased a K4 Publishing System running on a single Windows server supporting about 120 editorial, design and production users on Macintosh desktops. To the base system, NGS added the PrimeBase Replication Server, which provides disaster-recovery protection for K4, and MadeToPrint Auto from axaio software, a server solution integrated with K4 for automating production of PDF proofs and InDesign packages for prepress.

At the desktop, National Geographic makes extensive use of the K4 Notes Manager, an InCopy/InDesign plug-in that provides a fast and efficient way to display and navigate among multiple notes within an article or layout. The notes, which are color-coded to specific users or workgroups, facilitate communication among departments during the extensive fact-checking and editorial review that is applied to everything in the magazine.

The layout artists and text editors also have access to the K4 Overset Manager plug-in for InDesign and InCopy, which provides control over how overset text is displayed and printed while working in InDesign or in the layout view of InCopy. The plug-in automatically creates text frames for editing overset text on the page (and proofing it on paper), and then automatically deletes the overset frames as soon as copyfit is achieved. Overset Manager also warns users if there is overset

text when they check in a file. K4 records copyfitting information in the database, so that other users can see — without opening the file — the copyfit status and statistics of articles placed on the page.

As part of the overall system, NGS designed and built its own intranet portal for reviewing content in production. K4 continually updates the portal with previews and details of layouts and articles at any given moment, and these are married to planning information that NGS keeps in a FileMaker database. “The portal is a kind of ready reference, showing all of the layouts,” explained Appenzeller. “It’s an internal web site that lets us look at all of the stories and issues in their latest incarnation — text and layout. It’s also a very convenient way to download a PDF to work on, maybe to take home and work on, or to send to someone else for review.”

MadeToPrint Auto uses status changes of files in K4 as triggers to automate output for preflighting, packaging, proofing and PDF generation directly from the system. This module automatically exports proofs to the NGS portal so that all staff members working from a browser can see exactly how layouts are progressing. At National Geographic, MadeToPrint generates PDF proofs throughout the entire production process, which has eliminated hundreds of paper proofs that were manually generated under the previous system.

Training was an important ingredient in the project’s success. As it transitioned from pilot to live production in 2007, the project team made sure that lead adopters from every department were sufficiently trained to be able to help their peers as everyone gradually migrated from QPS to K4. “We identified tech-savvy people in each group, and made them the go-to people for ‘how-to’ questions,” Crane said. Yet even as it was able to back away from daily application support, the technical staff continued to encourage input from the users. “We still set up monthly meetings, which facilitated ongoing fine-tuning and better understanding how to best make use of the new tools,” Crane said.

THE RESULTS

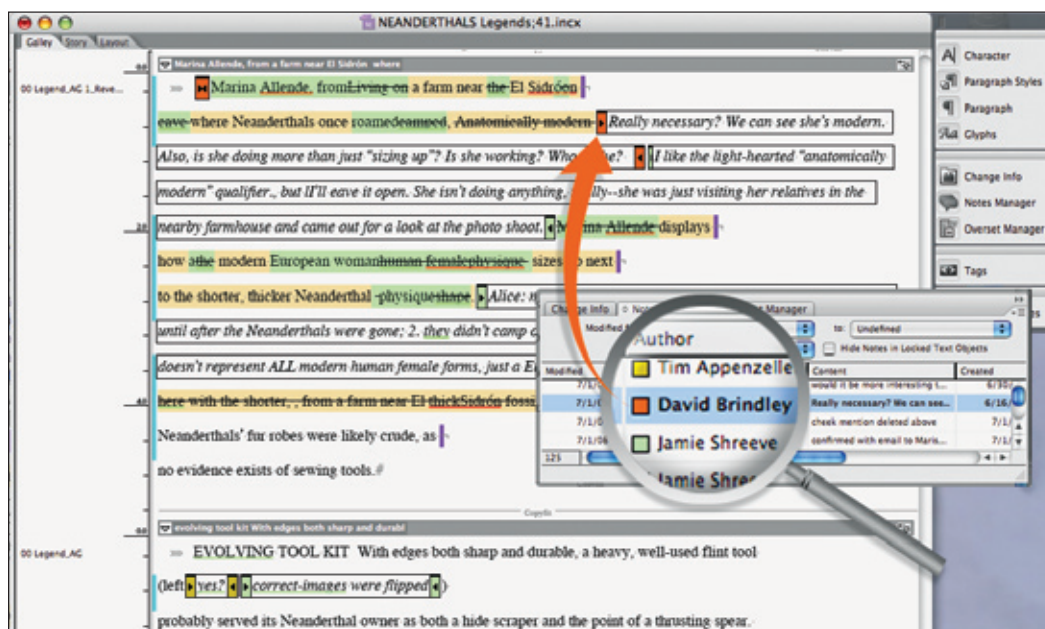
Two years after initiating the project, National Geographic has transformed a paper workflow into a digital one and in the process surpassed the objectives it set for itself when it embarked on the project. Among the notable improvements:

“K4 enriches the content-development process because they can see all the pieces as they are evolving. It creates a very collaborative, transparent environment that National Geographic staff just never had before.”

Margot Knorr Mancini
Technology for Publishing

Collaboration inside an article

Using the change-tracking and commenting features of InCopy, National Geographic editors can see who has suggested changes or made comments about an article, even after it's on the page. The K4 Notes Manager utility extends InCopy's commenting features by providing a palette for sorting, filtering and quickly navigating among multiple notes within an article.



Streamlined workflow. National Geographic has shortened its production time by three to seven weeks compared to the previous 15-week process. The new eight- and 12-week workflows represent 20 to 46 percent improvement in time to market. "The eight-week workflow isn't used for every story," Appenzeller said. "But we do have the possibility to do it now, which we didn't before. And the time we do have on the long-term schedule we use to a better effect."

Knorr Mancini observed that National Geographic introduced sound workflow principles. "Typically, I suggest to clients that workflow tasks fall into three categories — develop, refine and proof — and that these occupy roughly 60/30/10 percent of the time, respectively. Prior to the changes implemented with K4, the magazine had many developmental tasks taking place at the refinement and late-proofing stages, which of course resulted in added cycles.

"K4 enriches the content-development process because they can see all of the pieces as they are evolving, and write, edit and design in response to those changes. It creates a very collaborative, transparent environment that National Geographic staff just never had before."

Operational efficiency. The combination of K4 and National Geographic's internal portal provides the 24/7 self-service environment that the team envisioned at the outset of

the project. "There's far more visibility than we had before," Appenzeller said. "With K4, you can not only see the state of an article or layout but also where it stands in the process. . . . You can look at versions, and see who made changes where. . . . It really does give you a universal view of the process of putting out the magazine."

Unlike many publishers that delegate system projects to junior staffers, National Geographic had hands-on participation in the workflow sessions and K4 testing from senior members of every department. "Having senior management actively engaged in shaping the workflow and K4 use was key, a catalyst in many ways," Knorr Mancini said. "It actually allowed them to reshape the way they ran their business at the same time as they redefined their production process, and enabled them to consider organizational changes that would also be beneficial."

Better collaboration. With K4 and the workflow redesign, the magazine's researchers, text editors, designers, artists and production staff are able to collaborate much more effectively throughout production. Because everyone can see what everyone else is doing in real time, people are able to respond to changes and make their contributions without waiting, as they once had to do when working from paper proofs.

Foundation for growth. Since the initial installation, National Geographic has upgraded the K4 system to version 5.9, supporting InDesign CS3 at the desktop. It has laid the foundation for publishing more quickly to the Internet, a project

Portal to a work in progress

The screenshot displays the 'NGM Editorial Portal' interface. At the top, it identifies the user as 'Rik Forgo' and the system as 'NGM Editorial Portal'. The main content area is titled 'Full Issues: October 2008' and shows a grid of issue covers. A left-hand navigation panel includes a 'Schedule Alerts' section with a calendar for 2008, and a 'View Full Issue' section with a list of article titles such as 'COVER 1008', 'EDITOR'S PAGE 1008', and 'SOCIETY MASTHEAD 1008'. A detailed view of the 'NEANDERTHALS REVEALED' issue is shown, featuring a 'FULL PDF: NEANDERTHALS_MM7589' link and several article thumbnails, including 'Last Neanderthals' and 'Making Sense With Neanderthals'.

NGS information systems staff, led by Rik Forgo and Russ Little, built an intranet portal, fed by K4 and a FileMaker database, that shows current versions of articles and layouts as they progress through production.

After clicking on an issue cover (not shown), users are taken to thumbnails of an entire issue, including layouts for multiple editions.

Clicking on a story in the navigation panel on the left side of the issue window opens K4 previews of the complete article layout. Tabs across the top of the preview screen let users see schedule status and story team contacts.

it is tackling in the fall of 2008. Also under way are projects to roll out K4 to other NGS publications, including National Geographic Traveler and National Geographic Kids.

Reflecting on what National Geographic did well that others might emulate, Knorr Mancini said, "They had support from the top down, and a very well organized project-management team that paid attention to every detail. They had senior managers who were willing to roll up their sleeves and try different approaches to working, actually testing it themselves, before

they asked their staffs to make any changes. Both groups, editorial and IT, were ready to blaze new trails and go beyond what the traditional relationships had been together and worked as partners to get it right. There was compromise and attention given to needs on both sides. It was an exceptional change process to watch and experience from all angles."

The result, Appenzeller said, is that "we are not only doing things more efficiently, but also better."

ABOUT K4

The K4™ Publishing System lets Adobe® InDesign® and Adobe InCopy® users collaborate in one streamlined database workflow. K4 is developed by vjoon GmbH (formerly SoftCare) of Hamburg, Germany. MEI is the exclusive distributor of K4 in the Americas.

ABOUT TECHNOLOGY FOR PUBLISHING

Technology for Publishing provides process and technical consulting to publishers in the magazine, book, newspaper and corporate arenas. TFP specializes in helping companies transform their publishing strategies and systems from traditional, resource-heavy, paper-based models to fluid, automated content flows.

ABOUT MEI

MEI provides editorial workflow, automated pagination and content management solutions for magazine, newspaper, book, online and other publishing markets. With our extensive expertise, MEI is dedicated to supporting the goals and challenges of 21st-century publishing.

MEI PRODUCTS

The Page Director® series of ad layout solutions includes:

ALS (Advertising Layout System). Automated ad layout and issue planning.

CLS (Classified Layout System). Flow-and-go building of classified advertising pages.

MEI's other publishing products include:

IPS™ AdTrac™ Ad Tracking System. Combines a database interface with off-the-shelf software for affordable ad tracking.

Integrated Production Suite. Harnesses MEI's all-star production products into one powerful production system.

AdForce® and ClassForce®. Easy-to-use ad layout and classified pagination for smaller publications.

InQuery® RSS. K4 add-on that allows users to check on the database and review files anytime, anywhere.



MEI is an Adobe premier development partner.

For a comprehensive listing of our products, visit us at www.maned.com

AWARD-WINNING SUPPORT ENSURES YOUR SUCCESS

A cornerstone of our philosophy at MEI is a commitment to comprehensive service and support. Customers can purchase a Premium Site Support Agreement and enjoy free technical assistance, free or discounted upgrades, and a host of other valuable features. Our support has been praised by the industry and is a benchmark for other software companies.

