



## *Lightning Print's e-commerce solution electrifies book publishing.*

Consumers get frustrated when a book they really want is out of print. Publishers are frustrated with annual waste of up to 40 percent of books due to changing customer tastes. And authors, along with their publishers, are frustrated with the inability to economically accommodate the demand from booksellers for only a few dozen copies.

Looking for a way to reduce all this frustration, one company, using an IBM e-business solution, is helping the

*“With print-on-demand, we are able to get the book in consumers' hands in record time. Everybody wins—publishers, authors and consumers.”*

*Larry Brewster, Vice President and General Manager, Lightning Print*

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**Application** High-speed, offset-quality, digital on-demand printing of books

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**Software** IBM® Advanced Function Presentation™, (AFP), DB2®, CICS®

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**Hardware** IBM Infoprint® 4000 and InfoColor™ 70

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**Services** Maintenance and Support

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publishing industry revamp its traditional business model by turning to print-on-demand technology. With this service, even single copies of books can be printed economically, as customer need dictates, while avoiding the warehousing costs and waste associated with large-volume output using traditional offset printing methods. And now, a book never goes out of print, as its life cycle is extended indefinitely by storing it electronically for printing at any time.

The company that is helping publishers reap the benefits of print-on-demand is Lightning Print Inc., a division of Ingram Book Group. Established in late 1997, Lightning Print stores publishers' books in a digital library and prints each book one at a time, as ordered by the retailer, using IBM Infoprint solutions.

*The IBM Infoprint 4000's high speed enables the printing of a typical book in less than one minute.*



## Infoprint solution for publishing

*“On-demand printing offers both publishers and retailers outstanding new opportunities, and we are thrilled to be the driving force on the threshold of this new business.”*

*Larry Brewster, Vice President and General Manager, Lightning Print*

### **A winning solution**

“With our distribution network and strong publisher relationships, we knew we were uniquely positioned to benefit from this technology,” said Larry Brewster, Vice President and General Manager of the Lightning Print division, based in LaVergne, Tenn. “Ingram Book fulfills more book orders than any other distributor today through partnerships with tens of thousands of worldwide book stores and online stores, and by the fall of 1997, we were getting a substantial number of requests from publishers who were looking for a third party to offer this one-off print and distribute service.”

Publishers are now sending books to Lightning Print to be input into their system. These titles are not just those that

risk going out of print, but low-volume ones (those with a demand of less than 1,000 books per year) as well as new books by unknown, unproven authors.

“Who could have predicted that in the week after singer Paul Robeson won a 1998 Grammy, requests for his out-of-print biography would reach nearly 400?” said Brewster. “With print-on-demand, we were able to get the book in consumers’ hands in record time. Everybody wins—publishers, authors and consumers.”

### **Why IBM?**

Lightning Print conducted an extensive bidding process to evaluate print technologies to ensure they chose the most robust and cost-effective solution for print-on-demand. They awarded the

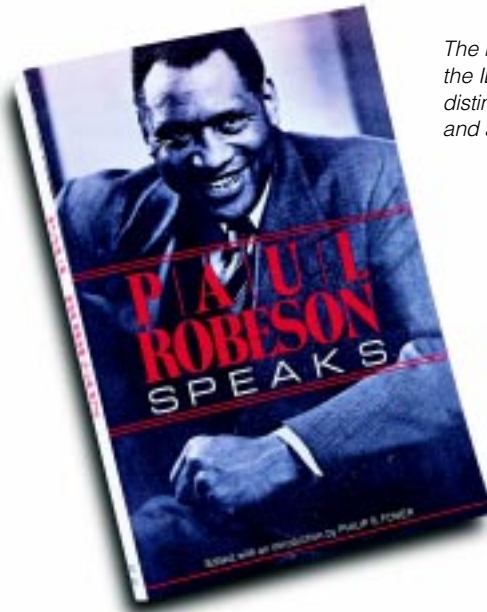
contract to IBM Printing Systems Company for their Infoprint solutions, while Danka Services International, Inc. (formerly KIS Imaging Services) was chosen to operate the facility.

“IBM was able to bring all the pieces together to integrate the Ingram ordering system with the printing system, as well as offer the ability to handle requests for a single copy as easily as requests for 100 copies,” said Brewster. “IBM’s use of web-fed technology was particularly appealing because it reduces operating costs dramatically, while increasing speed and reliability. Also, we are impressed with the quality of the output, particularly the clear and crisp color on the covers. Most consumers cannot observe a difference between an original book printed using traditional methods and a print-on-demand book.”

IBM’s Infoprint solution offers Lightning Print the flexibility to enhance the system in the future, for example, using the digital database to output a book on other media, such as CD-ROM and tape, and the ability to distribute books via the Internet to overseas printers. “As electronic commerce increases and digital book inventories grow, we foresee that publishers will take a chapter and put it online to generate consumer interest and accept orders,” Brewster said. The IBM Infoprint solution not only enables e-commerce, but also improves supply chain management. A key strategic element to Lightning Print’s success is its unique content management system, enabling it to store

*Going from the idea phase to a working system in less than 90 days was most impressive.*





The high-quality, color printing from the IBM InfoColor 70 makes it difficult to distinguish between an offset-printed book and a print-on-demand book.

books in a digital format for easy archiving and accessing. When books are ordered, the digital files are then sent to the Infoprint system for print production. This process eliminates the need for paper as a storage medium in the supply chain, therefore significantly reducing warehousing costs.

To handle the book block, Lightning Print has installed a black-and-white, 600 dot-per-inch IBM Infoprint 4000, which prints at 464 impressions-per-minute (ipm). For full-color covers, Lightning Print uses an IBM InfoColor 70, a 70 ipm printer with a 64GB collator and off-line RIPing capabilities for faster throughput.

#### **It's fast, too**

The Infoprint 4000's speed enables the printing of a typical book in less than one minute. According to Brewster, "Not only are we very pleased with the IBM technology, but everyone is most impressed that we went from the idea phase to a working system in less than 90 days."

Ingram Book Company accepts telephone, fax and online orders from physical and Internet-based booksellers as well as publishers. Books are typically printed and delivered to the warehouse within 24 to 48 hours of receiving the order and shipped in the next batch to the bookseller. Ingram developed its core technology systems in-house—including its publishers' database and customer database—using IBM's DB2 database running on an IBM S/390® mainframe with CICS.

Since Ingram uses business intelligence tools to keep track of all book orders, Lightning Print knows which books would make good candidates for on-demand printing and can help a publisher select books that are suited to this new print model to avoid both excess inventory and going out of print.

#### **Expanding beyond on-demand books**

Although Lightning Print had been discussing its plans with publishers for some time, surprising new business opportunities resulted from its print-on-demand service, including a high level of interest from librarians and authors.

For example, one of the first orders came from a publisher called Gospel Advocate. A well-known Nashville preacher's book had been out of print for 15 years, but 50 copies were needed for a Sunday school class. Lightning Print was able to easily fulfill the request at a reasonable cost and, when further requests came through for quantities of 130, 50, then another 25, it was simple to handle these small, multiple orders upon request.

Librarians are particularly interested in Lightning Print's ability to meet consumers' ecological and environmental demands. IBM's Infoprint solutions print on acid-free recycled paper. Lightning Print has chosen a cream-colored paper, which consumers find is desirable to read and easy on the eyes.

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*Larry Brewster, Vice President and General Manager, Lightning Print*

Publishers themselves also have found new uses for this technology. "Cambridge is at the same time very ancient and very modern. We already enjoy a distinguished reputation for keeping fine scholarship in print much longer than do most presses. We are delighted to be joining Lightning Print's new initiative, which brings together publisher, printer and bookseller as true partners, making the best entrepreneurial use of digital technology to meet the needs of the markets we jointly serve," said Michael Holdsworth, Press Business Development Director for Cambridge University Press.

Steven Schragis, publisher at Carol Publishing Group in Secaucus, N.J., said Lightning Print is enabling his company to recirculate 14 titles, including *The Complete History of the Negro Leagues*, as well as out-of-print collections or short stories by the science-fiction writer Philip K. Dick.

*“There are a lot of hard decisions when we’re out of stock on a particular title and fewer than 100 reorders come in. This program provides the answer for those books. We see this as an opportunity. I wanted to be in on the ground floor.”*

*Steven Schragis, Publisher, Carol Publishing Group*

For more information, please contact  
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“We face this issue every month when we have our reprint meeting,” Schragis explained. “There are a lot of hard decisions when we’re out of stock on a particular title and fewer than 100 reorders come in. This program provides the answer for those books. We see this as an opportunity. I wanted to be in on the ground floor.”

Other parts of Ingram Industries are also considering using Lightning Print’s services for short-run printing of brochures and magazines, such as the publication that Ingram Book sends to retailers detailing upcoming books.

#### **A million books a year**

Lightning Print has ambitious plans to expand its print-on-demand services beyond its facility in LaVergne. The company is in the planning stages to establish a duplicate facility in their other North American mega distribution center in Roseberg, Ore. As volume and demand increases, the company may consider a third center in the northeastern United States, as well as Ingram Book Company’s nine regional warehouses across the U.S.

Lightning Print is building up to a potential capacity of more than one million books a year from a library of many thousands of titles. “Ingram Book Company is excited to harness IBM’s innovative technology for the benefit of our customers,” concludes Brewster.

“On-demand printing offers both publishers and retailers outstanding new opportunities, and we are thrilled to be the driving force on the threshold of this new business.”

#### **About IBM Infoprint solutions**

IBM’s Infoprint family of print-on-demand solutions are designed for the easy management of the entire print shop, not just the printers. By using a single, central management system, customers can easily add and change printers, enabling them to scale from a small to a large network of printers. In addition, Infoprint is engine-independent so jobs can be output on any black-and-white Infoprint printer without translation. Increasing the integrity of the system, Infoprint’s control language, AFP, is the only such system that enables operators to do single page recovery at any time, rather than having to reprint an entire book.

