

The SeyboldSM REPORT

Several conferences took place in October, including Graph Expo in Chicago, Ifra in Amsterdam and the Marketing Operations Management Conference in New York. THE SEYBOLD REPORT covers news from these events.

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Arbortext Buys Advent

BY MARK WALTER

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In a move that significantly bolsters its print page-composition capabilities, Arbortext announced it is acquiring Advent for an undisclosed sum. Advent is the developer of 3B2, a high-end page-composition system that is well-suited to automated publishing of XML content. Arbortext develops a suite of tools designed for standards-based editing and publishing.

Arbortext said it expects to retain all of the 40 or so Advent employees, most of whom work in the U.K., where Advent is based. Arbortext, based in Ann Arbor, Mich., had about 150 employees prior to the acquisition.

The acquisition of Advent's engineering team doubles the number of programmers that Arbortext has devoted to print composition. "Well over a year ago, we identified an opportunity to serve our customers by addressing more-complex layouts than what our product [E3] could support," said PG Bartlett, Arbortext's VP of marketing. "Full automation is not enough. Customers want automation, but they also want the ability to tweak layouts after pagination."

The acquisition comes on the heels of Arbortext's 13th consecutive quarter of record revenue. In the three-month period that ended Sept. 30, the company reported a 55% increase in new business compared to the year before. Among the third-quarter customers were Cypress Semiconductors, Eclipse Aviation, Honeywell Aerospace Electronics Systems, HP Services, LexisNexis and the Norwegian Ministry of Defense.

Founded in the mid-1980s, Advent, along with rivals such as Xyvision and Miles 33, is one of the few suppliers of automated composition systems to have survived the onslaught of desktop publishing. The company claims to have about 300 installations in both commercial and corporate publishing. Its customers produce a wide variety of publications, includ-

ing directories, books, journals, technical manuals, financial and legal documents, and industrial catalogs.

The 3B2 product is widely regarded as quite capable for complex, automated publishing but inordinately difficult to master. Bartlett said that Arbortext plans to begin addressing 3B2's weaknesses immediately. A first step will be to make it easier to write 3B2 stylesheets by adapting Arbortext's Styler style-creation tool to work with 3B2. Arbortext also will begin overhauling 3B2's desktop user interface, though it will likely take a year before that's complete, Bartlett added. For now, Arbortext will maintain both E3 and 3B2 products. Farther down the road, Bartlett foresees Arbortext eventually melding 3B2 and Arbortext's formatter, E3, into one product.

Our take. This acquisition underscores Arbortext's strategy to become a leader in "enterprise publishing" by supplying software that automates both print and electronic page production. The 3B2 software complements Arbortext's well-known XML editing tools and will enable Arbortext to target more typographically complex publishing applications in the corporate setting, as well as to make a more concerted effort to sell into commercial STM publishing, where many publishers are in the midst of migrating to XML.

Advent finally gains the marketing and sales presence in North America that it has always lacked. Advent customers will no doubt be relieved to see 3B2 in the hands of a larger software firm that is committed to serving the XML publishing market. Advent's competitors will no doubt be dismayed that Advent, after more than a decade of failing to establish itself in North America, will now have its product sold under the brand of one of the best-known American suppliers of XML publishing products.

TSR

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Graph Expo:

Quark Debuts Xpress 6.5, Quark Commerce; CEO Lays out Strategy for Company Partnerships

BY CYNDE WOOD

CHICAGO — The Graph Expo introduction of Quark Xpress 6.5 on Oct. 12 and the company's announcement of a new business division would have been easy to miss over the constant din of presses and high-pitched chatter emanating from the show floor, but THE SEYBOLD REPORT found the story and caught up with Quark's CEO in a quiet suite high above the melee.

Kamar Aulakh, in place as president and chief executive since the beginning of the year, is relaxed and confident in his new role. Having led Quark's R&D operations since 1995, he made clear statements about the company's products and its commitment to improve and support the product line.

Aulakh began by describing several new features and productivity enhancements to the latest version of Xpress, which will be available at no charge to registered Quark Xpress 6 users in the next 30 days:

- QuarkVista, an Xtensions module that allows image editing and image optimization within Xpress;
- QuarkXclusive, a Mac OS X-only tool created in partnership with HP, that supports variable data page creation and printing; and
- PSD Import, with which users can import native Adobe Photoshop documents into Quark Xpress. The ALAP-powered tool supports layers and alpha channels, and, according to

Aulakh, "works better than InDesign does."

The new version of Xpress also supports Citrix remote deployment applications. This will be the last 6.x release. Aulakh said Quark 7.0 will ship next year.

Quark Commerce is a new business unit in Quark's stable that currently supports desktop solutions, enterprise workflow solutions and OEM/customer solutions (licensing). Under the Commerce umbrella, Quark will offer call center, e-store, pick-pack-ship and transaction verification services. "We not only help our customers create a catalog, but help them sell what is in that catalog," Aulakh said.

"Our customers have told us that it is difficult to get this piece from one supplier, another piece from another supplier, a third piece from another supplier. Our customers want a [single] stable solutions partner, somebody they can partner with so that they can focus on increasing revenues rather than worrying about their architecture and software solutions," Aulakh said.

"We are talking to customers," Aulakh told TSR. "The one area we have been focusing on is changing the organization from one focused internally, as a technology-driven company, to one that is externally focused on the customer.

"And we are working with our partners to develop better solutions. No one company can do it all by itself. There are areas where it just makes sense to partner with somebody who is the domain expert

in that area so we can provide a solution faster.

"For example we have licensed others technologies and others have licensed our technology components to put into their solutions. It's a two-way street."

TSR had to ask if that meant that a partnership with Adobe that might make it possible to exchange Quark Xpress and Adobe InDesign files was in the offing.

"It takes two to tango," Aulakh said, quickly reiterating Quark's policy of open, XML standards throughout its product line.

"We will continue to support XML with every product offering that we have. We strongly believe that XML is the standard for data manipulation. It is something we support in all our products," he said.

"Once the data is taken out, the customer can re-use it in any system they want to as long as that system has an ability to import XML."

On the horizon, Quark XML Pro, a new technology (a feature of Quark Xpress 6.5 to ship First Quarter 2005), which provides a much-needed XML feature set for customers with long documents (books and journals), or documents incorporating mathematical formulas, grouping tables, etc.

Quark will also introduce QPS Studio early next year. This small office/home office version of QPS is for up to 12 users.

"We always had good technology, but our communication with the customer wasn't good," Aulakh admitted. "We feel competition is good, it breeds innovation and provides the customer with a better product. We've grown as a company because of that competition."

Aulakh went on to say that Adobe's launch of InDesign has had no financial impact on his company.

"Twenty years we've been here," he said, "and we will be here another 20."

TSR

News from Ifra:

KPG Joins the Violet Club

BY MICHAEL MITTELHAUS

AMSTERDAM — At its Ifra press conference on Oct. 11 Kodak Polychrome Graphics introduced the long-awaited violet polymer plate, called the VioletNews Printing Plate. With a sensitivity of 40mJ, it is approximately 20% faster than the Fuji LP-NV. KPG's plate has been in tests since last January and will be released commercially in the first quarter of 2005.

In a surprising move, KPG announced at the same time that based on the same development, a commercial violet plate will also follow in the second quarter of next year. The plates will be in the same price range as thermal CTP plates. At the Ifra Expo, exhibitors IPA (FasTrak), ECRM (Newsmatic) and Krause (LSJet) were already making use of the new KPG product. One Krause system was also exhibited at the KPG booth.

KPG said it sees an advantage in violet CTP for smaller companies because of the lower costs for the image setters. With the addition of KPG, all three major plate vendors now offer a choice of thermal and violet CTP plates. Creo, the fourth-largest plate vendor, has so far announced no plans to go into violet.

KPG also introduced compact versions of its thermal Newssetter, the Newssetter TH 100 CL and TH180 CL, which take up 40% less floorspace. The system has an integrated loading system and the slip sheet removal has been moved to the top of the conveyor. The system is scheduled to be available for the second quarter of 2005 at prices expected to be 20-30% lower than the standard systems TH 100 and TH 180.

Other CTP exhibitors included ECRM, which was selling its newsmatic CTP system to smaller newspapers, and NAPP/MCDermot, which promoted the Flexo system only. Krause expanded its range of newspaper platesetters with the commercial release of its entry-level system

CTP Easy, which it introduced at Drupa. CTP Easy is available at three different speeds, as Easy 80, 90 and 120, priced at 69,900, 99,900 and 129,900 euros.

The main newspaper machine from Krause, the LSJet, comes in seven different models, with speeds ranging from 120 to 300 plates per hour and prices ranging from 169,900 to 299,900 euros. Strobbe limited its Ifra presence to the exhibition of punch benders, and there were no platesetters from the recently acquired BasysPrint at its booth.

OFS Group and System Brunner Partner

The Web-based inline plate quality control system from Swiss company OFS, PQCS.net, which was introduced at Drupa, will go into further development with System Brunner. First enhancements of PQCS.net will include the integration of the various printing plate characteristic lines, according to Eurostandard System Brunner. The measuring results from PQCS can now be represented in the newly applied "Isokonturen-Diagram." In addition, the system can now be integrated into JDF workflows (details under www.pqcs.net), which has been done in a first customer site using Becomp's TruPage Workflow-System.

The new developments of OFS group and System Brunner will be launched early next year in the version 3.0 of PQCS.net, which then will carry the endorsement "powered by System Brunner."

OneVision and PPI in Development Partnership

German companies OneVision and PPI announced a joined project development to achieve JDF-based integration of

OneVision's PostScript and PDF optimizing software AsuraPro into PPI's PrintNet Newspaper and commercial workflows. Results from Asura Pro's file checking will be transferred via JDF to PPI PrintNet and will be used there for status reports and further processing in PPI's Output Management System PrintNet OM.

Because AsuraPro is based on JDF-compliant job ticketing, it also will be possible to compare the incoming production data for ads with the information received from PlanPag and AdMan systems to make sure that the production data complies with booking data and production planning. The JDF-based interface, which makes use of the so-called private tags of JDF, will be commercially available in the second quarter of 2005.

This was one of the rather rare examples of JDF-based products at Ifra this year; in stark contrast to Drupa in May, none of the Ifra exhibitors adorned their booths with "JDF-compliant" posters or panels.

While JDF was rather a non-issue at Ifra, the XML-based integration of newspaper systems was one of the major topics among exhibitors as well as a series of seminars scheduled parallel to the Expo in Amsterdam. Also during the show, the AdsML Consortium unveiled the results of its second year of work, AdsML Phase 2, which consists of three new XML standards for exchanging ad information. These build on the AdsML Framework launched last year, but currently address three key features: bookings, classified ads and ad content delivery. We also learned at Ifra that during the CIP4 interop meeting in Vancouver earlier this year, major issues of cooperation between AdsML and CIP4-JDF have been clarified, although the details still need to be worked out.

As expected, Ifra this year was quite a show, although with the show coming just five months after Drupa, major news was lacking. As was announced earlier, major players in the market, including Agfa, Creo, Fuji, Heidelberg and MAN Roland, decided to stay away from the show, which turned this year's Ifra Expo into a rather nice newspaper get-together. **TSR**

MOM Motivates Mass-Marketers

BY CHRIS LYNN

NEW YORK — Early-stage markets emerge in a swirl of definitions and acronyms. In the case of Henry Stewart's Marketing Operations Management (MOM) Symposium in New York's Brooklyn Bridge Marriott in October, competitors for the "name this space" award included EMM (enterprise marketing management), MRM (marketing resource management), BRM (brand resource management), MIS (marketing information systems), marketing automation and, of course, MOM itself. For now, we'll follow the lead of the conference's chairman, Michael Moon of GISTICS, in using the term "MOM," and we'll use it to describe the technology infrastructure that improves the efficiency, effectiveness and impact of enterprise marketing processes.

Speakers made a strong case for such a technology infrastructure. Opening speaker Hunter Hastings, a consultant for the EMM Group, pointed out that growth is what matters to major corporations. The job of marketing is to deliver growth, and tying marketing initiatives to financial outcomes requires a process with metrics. Capturing the marketing process in software facilitates this and leads to improvements in productivity, speed to market and more effective marketing spending.

Elana Anderson of Forrester Research asserted that marketing is broken in part because we consumers are sick of being bombarded by unwanted messages and partially because these messages have in any case been diluted by fragmentation of the media. Also, marketers have not been rigorous in executing and measuring the effect of their campaigns. "Without assessment, marketing is just another cost center," said one speaker.

A recurrent theme in marketing is that the profession has failed to win the respect or a seat at the top table that it needs and deserves. But this is the marketers' own fault for not being rigorous in driving out costs from their supply chains and for failing to tie their efforts to shareholder value. The key imperatives for marketers these days are transparency and accountability: They must demonstrate the value they

bring to the corporation, show that they are creating growth in revenues and customer value, and prove that they are doing it efficiently. The theme of the MOM conference was that technology will help in these endeavors.

MOM Technology Infrastructure

What does MOM really mean? Components of what Forrester describes as the "marketing technology backbone" can include:

- DAM (digital asset management).
- Workflow and collaboration tools.
- Project management, planning and budgeting tools.
- Campaign management.
- CRM (customer relationship management).
- A "dashboard" of marketing key performance indicators (KPIs).
- Business intelligence/analytics to support market segmentation and customer analysis.
- Personalized and general print collateral, Web and email publishing tools.
- Elements of ERP (enterprise resource planning).

Clearly no one vendor supplies all of these elements. Exhibitors at the event included DAM vendors Artesia/Open Text, EMC/Documentum, eMotion, INSCI/Webware, Interchange Digital and North Plains Systems (NPS). Some of these companies offer workflow and collaboration tools, but none, we believe, aspires to compete with marketing-automation vendors such as Assetlink, Aprimo, Doubleclick/Smartpath and Unica, which were also represented. These companies claim to include a built-in DAM capability, though in truth it is typically limited.

In fact, we believe there is an opportunity to integrate a solid DAM system into each of the leading marketing automation platforms. This was a point made explicitly by Carlos Montalvo of North Plains Systems when he pitched NPS's Telescope product to the audience, asserting, "A marketing automation system without a DAM

is like a bank without a vault." Given that the DAM value propositions of brand consistency, speed to market and self-service access to assets complement the efficiency and effectiveness arguments of the marketing automation vendors, this is a good argument.

Absent were the CRM and business intelligence vendors, companies such as Siebel, Epiphany, Cognos and SAS Institute. Also missing were the smaller companies representing the print fulfillment end of the marketing supply chain, such as Pageflex, Printsoft and GMC. If exhibitors measured success in terms of lead generation, their return was probably low as the attendees appeared overwhelmingly to be vendors or consultants, and those Fortune 500 companies that were represented typically are already users of a MOM solution rather than prospective buyers.

This, too, is typical of an early market event: Visionaries and early adopters come to get validation from one another that they are indeed ahead of the mainstream, and to describe what benefits they have brought to their businesses.

Case Studies

One of the strengths of the conference was its focus on case studies. Aprimo customer Bank of America described how its 1,300 users can now manage campaigns, process supplier invoices through the system and get reports on some 3,700 marketing activities. The system, brought in over the past three years, has resulted in a reduction in budgeting and collateral approval cycle times and a 228% improvement in invoice processing capacity.

The bank has adopted Six Sigma methods for quality improvement and has found that marketing automation is invaluable in supporting this program and in providing reports for Sarbanes-Oxley auditors.

A representative of Scotiabank of Canada described how it is using a Unica Affinity system and SAS analytics to deliver and measure campaigns that are driven by events in their customers' lives, such as house moves or paying off a mortgage. The analytics software identifies these events from address changes, payment records and so on, and personalized mailings are automatically generated, along with a reminder to branch sales staff to follow up. The bank claims that its \$2 million investment in MOM has yielded \$1 billion in

incremental deposits.

Finnish telecommunications company TeliaSonera described its home-grown system for managing the marketing supply chain and standardizing processes involved in its campaigns. Terry White of Amway Japan, a billion dollar business, talked about the obstacles to implementing improvements to marketing workflows.

A panel of users and consultants distilled some of the accumulated wisdom of these and other early adopters, and several themes emerged:

- The inefficiencies in many large companies' marketing processes are often astounding and represent "low-hanging fruit" for companies willing to address them. (For example, Amway previously took 10 days to change a Web page on any of its 28 sites; the process is now instantaneous. It used to cost Philips \$180 to distribute each of its thousands of digital asset from head office to the field; now, the cost is a fraction of that sum.)
- Marketing groups need to centralize the core of their communications to ensure that they are data-driven and consistent, while allowing some customization in the field.
- Marketing groups need to adopt standardized processes for procurement.
- Great savings usually are available through rationalizing the number of marketing services suppliers (Bank of America went from 20 market research providers to four)

Several of these themes echo the techniques used by operations people to rationalize the manufacturing supply chain. Asked what vendors to Fortune 500 companies' marketing groups (ad agencies, printers, premedia companies, mail houses) should be doing to ensure that they survive the cull in suppliers that will result from re-engineering their customers' marketing departments, the panel was unanimous: Adopt the same open attitude to process improvement as your customers, drive down your own costs, communicate openly and frequently with your client — and don't expect to be able to live off your client's inefficiencies any longer.

The role of IT departments remains ambiguous. In the view of one speaker from the media and entertainment indus-

try, DAM is a business strategy and has nothing to do with information technology. But that opinion was in the minority. Forrester's Anderson said the number of inquiries she is getting on marketing automation has gone from zero to several per week in the past six months, and that the enquirers are CIOs.

But CIOs are wary. Many CRM installations have been less than unqualified successes, and with the exception of hitherto neglected database marketing groups, marketing people have been notoriously resistant to enterprise software initiatives. As we have noted in earlier reports, the provision of MOM functions as an externally hosted service sidesteps the usual marketing-IT miscommunication issues. In addition to DAM service providers such as eMotion and INSCI, Assetlink represents a MOM vendor with both licensed software and ASP (application service provider) offerings. New York-based Sitaro and London-based Mtivity are pure ASP companies, charging on a per-user, per-month basis for Web-based applications that support campaign management, collaboration, calendars, budgeting and measurement.

Where's MOM Going?

The presence of many major consulting companies at the conference reinforced the belief that MOM is on the move. Accenture, BearingPoint, Inforte and others spoke of the need for marketing transformation and the change management processes that must accompany it.

This conference provided considerable anecdotal evidence that process improvement thinking is finally coming to the marketing function. This is being driven by the realizations that the need to be creative does not preclude the ability to follow a process, marketing needs to do a better job of explicitly linking its investments to financial outcomes, efficiency gains are there for the taking, and technology can facilitate these improvements. The growth imperative, concern about overcommunication to jaded consumers and corporate initiatives such as Six Sigma programs and Sarbanes-Oxley audits are also driving change in marketing operations.

For software vendors, this represents a business opportunity, as well as a pressing need for integration. Systems that capture customer and market data need to be linked to systems that:

- extract customer data based on segmentation criteria;
- use these data to select personalized or general marketing messages and templates within which these messages may be delivered;
- populate the templates with these messages and selected (and up-to-date) media assets;
- publish and deliver the resulting materials; and
- plan, orchestrate, control and measure the overall campaign.

Such functions already exist to varying degrees in some companies, but they are not well-integrated today. For most, Excel spreadsheets, FileMaker databases and email as a collaboration tool represent the state of the art.

MOM adoption represents a threat to many service suppliers to large corporations' marketing groups. The threat arises from the likely rationalization of the number of vendors as procurement of services is centralized and standardized, and from the pressure to become more efficient that will be imposed (think about the auto manufacturers' squeeze on their tier 1 vendors over the past few years as they adopted lean manufacturing).

Another, subtler, threat is that MOM will provide corporate marketers with the ability to systematically acquire and retain a body of marketing knowledge. Until now, marketing knowledge (what strategies and tactics work, how best to procure services and run a campaign and how the results of different initiatives compare) has been embodied in both the corporation's marketing people and in service providers such as advertising and direct marketing agencies.

But turnover in marketing staff has frequently left the service provider as the de facto expert on what works. This has provided the incumbent vendor with a substantial barrier to competition, since the cost of switching suppliers is high. But when corporate marketers have the accumulated experience of the corporation's marketing teams available to them online, and when they have both the mandate and the means to become more efficient, agencies and print vendors will need to find new ways to compete.

TSR

UV Colors Stake Their Claim

BY KURT WOLF

Inkjet printing systems were in dazzling abundance in an impressive variety of print widths and speeds at Drupa 2004. We discuss the most important new features and developments.

New manufacturers, as well as a number of distributors, showed inkjet printers at Drupa. For the first time, we saw new large-format printers by manufacturers from China, Canada and Slovenia both at their own booths and at the distributors'.

The biggest trend in large-format printers (LFPs) was the printing of UV inks for weather and light fastness for outdoor advertising.

With so many printer vendors, there was bound to be confusion. Adding to the confusion were the different, hard-to-distinguish formats and performance levels. But these levels are important if they are made for vastly different products and business sectors. In this report, we divide large format printing into the following categories:

- Inkjet technology providers
- Large-format printers
- Wide-format printers
- Super wide-format printers
- Flatbed inkjet printers
- Industrial inkjet printers

Individual manufacturers produce printers for different categories, posing a problem for systematic coverage, since these products must be mentioned in different categories. Furthermore, some printing machines can print products for more than one category — rotary and flatbed printers, for example. To keep it short, we will only mention each manufacturer once.

Inkjet Technology

Spectra

At Drupa, more than 20 Spectra customers displayed over 40 inkjet printing systems with Spectra heads. Among them were large- and wide-format printers, flatbed printers, a digital high-speed printer, and mailing, addressing and imprint machines using the Spectra print heads Galaxi and Nova.

At its own booth, Spectra demonstrated its Apollo II Printhead Support Kit, which will make it easier for an OEM customer to develop printing systems with up

to four 256-channel print heads.

A new Spectra department, Spectra Technology Integration, demonstrated two developments: the Apollo Jetpress-System, which uses edible colors to print on foods; and the four-color Merlin 4-44 printing machine, which can print onto 30-centimeter wide continuous rolls with speeds up to 100 meters per minute. Spectra also announced that a newly developed microtechnology will allow for significantly smaller and more precisely working jets in the future.

Xaar

Arie Rosenfeld, Spectra's chairman of the board, described Xaar as the leading manufacturer on the inkjet-head market. Xaar, a British company with production in Sweden, has 250 employees and produces more than 200,000 128-dpi inkjet heads annually. The company had about \$50 million in revenues in 2003, and for the past two years more than half of its sales have been in China, including 12 Chinese manufacturers of large-format printers alone.

For the first time at its booth, Xaar showed the Omnidot GS3 print head developed by Agfa, which reaches with 720-dpi mechanical resolution an optical resolution of 1,440 dpi. Xaar produces this print head for Agfa, which offers five shades of gray, 3-12 pico-

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The Merlin 4-44 Printing head prints with four colors on a 30-cm wide paper roll with a speed up to 100 meters per minute.



liters drip volume and 11.7kHz output rate, but also offers it to other customers.

The Omnidot 760 GS8 has an even greater drip volume and a more exact drip placement, and with 360 dpi, it can print an optical resolution of 720 dpi. Meant for large-format and packaging print, it is one of the most productive models on the market. The binary Omnidot 380 print head prints with 382 active jets 53.8 millimeters wide. With 180 dpi, the print head delivers 80 picoliters drip volume and prints with a frequency of 4kHz for a maximum linear printing speed of 510 millimeters per second. It can print with solvent-, UV- and oil-based inks. The Xaar heads are implemented by Dotrix (the.factory), Océ (Arizona T220 UV / Arizona 60UV), Riso (HC 5000) and Seiko (ColorPainter 64S), among others.

Large Format Printers

Inkjet printers that can print 60 cm to 180 cm wide substrates are now found in almost every print shop and belong in this area. Many are only used as stand proofers in computer-to-plate production because printing high-quality posters isn't sufficiently profitable for offset printing businesses. But many high-speed print shops offer poster printing as part of their services. A small number of companies make money from their poster service, but the majority derive most of their revenue from super wide-format printing.

Hewlett-Packard is by far the market leader in large-format printers. Relatively early, HP began implementing professional character plotting in every possible field of application, aside from the printing industry. More than 20 manufacturers offer many different models for pure poster printing in the graphical industry. We will discuss the most important developments we saw at the Drupa.

Canon

The new Canon W6200, with pigmented ink, prints

format A1+ (up to 61 cm wide), rimless in just 1.5 minutes. Like the larger W8200P (117.6 cm), it prints in six colors (C, M, Y, BL, CL, ML) with a resolution of 1,200 by 1,200 dpi. Canon claims a light fastness of 100 years indoors for brilliant colors. The 8200 is also available as a D-model for dye inks.

The W7200 and W7250 printers, with a specifically developed 254 mm-wide print head, can print the A0 format (91.4 cm printing width) and A1 (61 cm printing width) in 2 and 1.5 minutes, respectively. With a resolution of 600 by 1,200 dpi and the six colors, it can print in photographic quality. The A3+ printer W2200 also received a new print head.

Encad

Along with its parent company, Kodak subsidiary Encad showed Kodak's Novajet 1000i, which is available with 152 cm or 106 cm printing widths. To make use of the high printing speed of 14 square meters per hour in production mode, they developed a very sophisticated drying method. The printer can be used with dye inks or pigment inks in resolutions of 300 by 300, 600 by 600, or 1,200 by 600 dpi. The model 106 is available for 10,436 euros, and the model 152 costs 14,786 euros.

Epson

Of all of Epson's large-format printers, the Epson Stylus Pro 10600 drew the most interest. It prints up to a format of B0+ in 111 cm width, with a maximum 1,440 by 720 dpi resolution, at a printing speed of up to 20 square meters per hour. When printing with six colors, one can choose between photo-black and matt-black. It uses the new ultra-chrome inks and costs 12,754 euros.

MacDermid Colorspan Inc.

MacDermid, an American manufacturer with a European branch office in Hoofddorp, The Netherlands, demonstrated the new display maker X-12, which it offers in 152.4 cm and 183 cm printing widths. The 12-color printer, with two sets of six colors each, can print 14 square meters per hour at 1,800 dpi. The printer has been fully automated for unattended printing, complete with automatic calibration for the printing head distance and color, appearance, warm air-drying and motorized spooling. It can print with dye ink or pigmented ink. The company guarantees a light fastness of nine months outdoors, and laminated of three years.

Mutoh Europe N.V.

Japanese manufacturer Mutoh showed its latest Rockhopper 38, a four-color printer for the environmentally friendly Eco-Solvent-Plus-Inks in 96 cm printing width for less than 8,000 euros. It is designed to connect to the Mutoh Ultima Cutter to cut printed color labels. The digital transfer printer with printing widths

Canon U.S.A. Inc.
Lake Success, N.Y.
ph: (516) 328-5000
www.usa.canon.com

ENCAD Inc.
San Diego, Calif.
www.encad.com

MacDermid ColorSpan
Eden Prairie, Minn.
www.colors span.com
Mutoh U.S.
Phoenix, Ariz.
ph: (480) 968-7772
www.mutoh.com

Mutoh U.S.
Phoenix, Ariz.
ph: (480) 968-7772
www.mutoh.com

Seiko Epson Corp.
Nagano, Japan
ph: 81-266-52-3131
www.epson.co.jp/e

Gandi Innovations showed for the first time its Jeti 5000 printer (left) and the Jeti 3150 flatbed printer.



of 165.3 cm and 228 cm made its debut in Europe. The printed transfer paper is transferred onto the print media via a colander.

For outside use, Mutoh showed the Rockhopper I-family, with 116.8 cm and 157.5 cm width, as well as the Rockhopper II-family, with widths of 127 cm, 162.5 cm and 220 cm. Its Eco-Solvent-Plus-Inks have a light fastness of up to three years. The two Toucan-Printers, in 162.5 cm and 220 cm printing width, have light fastness of up to five years printing with regular, solvent-based pigment inks.

Wide-Format Printers

This area includes printing systems less than 2 meters wide, but with a production of several hundred square meters per hour, they clearly don't belong in the group of large-format printers. The dominant supplier here is Scitex Vision, whose Superjet, Pressjet II, Pressjet W and Turbojet can achieve a printing width of 160 cm. Their hourly production rate ranges from 150 square meters with the Superjet to 400 square meters with the Turbojet.

The Turbojet, the fastest wide-format printing system on the market, prints in rotary or flatbed modes up to a format of 163 by 366 cm, with a resolution of up to 448 dpi. It prints on substrates ranging from coated and uncoated paper to vinyl, banners, canvas or even styrofoam. It can also fill up the whole printing format with A0 or A1-Posters, or with smaller pictures. Even the Turbojets' price of 650,000 euros is an indication that these printing systems don't belong in the same group as large-format printers.

Super Wide-Format Printers

Four years ago, the only suppliers in this sector were NUR Macroprinter, Salsa, Scitex Vision and Vutek. For Drupa 2004, the number of manufacturers in this area more than doubled. The newcomers are taking on the established companies with lower prices made possible because their printers are made in countries such as China or the Czech Republic, where labor is relatively inexpensive. Customers might find their lower prices appealing.

Gandi Innovations

James Gandi's eponomously named Canadian company previously built Salsa LFP Machines. After NUR Macroprinters took over Salsa, the company was not allowed to distribute competitive machinery for two years. Early in 2003, Gandi started producing the Jeti roll printers. Gandi has already sold 120 machines and introduced its first flatbed printer at the Drupa.

The Jeti 3300 prints with 12 Spectra print heads and six colors in 320 cm printing width. In six-pass mode with a resolution of 600 dpi, it reaches 45 square meters per hour. The Jeti 5000 has 18 print heads and



prints in 5-meter width with equal quality at a rate of 97 square meters per hour. On display for the first time, the Jeti 3150 flatbed printer with 24 Spectra heads operates like a roll printer, either with four or six colors. With four colors and in the highest mode, it reaches 68 square meters per hour, and with six colors it can produce 50 square meters per hour.

In Germany, the printers are distributed by Jeti GmbH, Rohrbach. The Jeti 3300 is available for 22,000 euros. The first Jeti 3300 in Germany has been running since March 2004 at the Regler silk-screen printing center in Weiden, Germany, while a second one was installed in Ingolstadt.

Grapo

At Xaar's booth, Grapo s.r.o. of Olomouc, Czechoslovakia, showed its large-format printing system, Octopus X4 UV. It prints with UV ink in 204 cm width, using Xaar XJ-500 print heads, and 360 by 360 dpi in four colors. Used as a flatbed printer, it can print on plates up to 4 cm thick. As a rotary printer, it can be delivered with an up- and unwinding mechanism. The maximum printing speed runs at 24 square meters per hour, and outdoors the colors have a light fastness of four years. Cologne-based Colormy AG has taken over representation in Germany and offers the Octopus X4 UV for less than 100,000 euros.

Leggett & Platt

The manufacturer of large-format printers showed the Virtu RS 25 from its Swiss subsidiary, Spühl AG of St. Gallen. Spühl has manufactured the machines since the end of 2003 in metric measurements and distributes them in Europe and Africa, as well as the Middle East and Far East. Leggett & Platt continues the production in the U.S. for the North and South America markets.

The Virtu RS 25 is a flatbed and roll printer with a 250-cm printing width that can print on plates up to 7.5 cm thick. With 36 Spectra piezo heads, it prints six colors (four colors optional) with a resolution of 600

While Leggett & Platt manufactures the Virtu flatbed printers for North and South America, Spühl in Switzerland manufactures and distributes the printer in Europe, Africa, and the Near and Far East.

Gandi Innovations
San Antonio, Texas
ph: (210) 344-9566
www.gandinovations.com/web-content/index.html

GRAPO, spol. s r. o.
Olomouc, Czech Republic
www.grapo.com/base/

Leggett & Platt Digital Technologies
Jacksonville Beach, Fla.
ph: (904) 249-1131
www.lp-digital.com

by 423 dpi in two-pass mode, and therefore reaches 40 square meters per hour. In one-pass mode with 300 by 423 dpi, it prints with four colors up to 150 square meters per hour. A sophisticated and patented drying technique makes printing on paper, foils and sensitive textiles possible.

Lyson Systems

Lyson is a British manufacturer of substrates and pigmented inkjet inks for large-format printers such as Mutoh and Epson, which are distributed by its subsidiary, Tiara Systems, under the name Tiara Opal 46 and 63. The 116.8 cm and 160 cm wide printers produce between 3.3 and 6.6 square meters per hour. Without further treatment, the pigmented inks offer an outdoor weather and light fastness of up to five years. The Tiara Opal 46 and 63 are offered for 19,000 euros and 21,000 euros, respectively.

The Tiara Opal II family, with printing widths of 127 cm, 162 cm and 220 cm, uses the same inks but prints with eight colors and produces up to 16 square meters per hour, at two times CMYK up to 30 square meters per hour. The 220-cm machine costs 42,000 euros.

The proposed Tiara Tourmalin will print in 340 cm width in two-pass mode up to 70 square meters per hour and in six-pass mode at 28 square meters per hour. It should cost about 90,000 euros.

3M

3M Commercial Systems showed its 3M printer 2500 UV, an OEM version of the Virtu RS 25 of Spühl, which it sells for less than 500,000 euros. 3M offers customers a package consisting of printer, inks and print foils to optimize outdoor weather and light fastness.

The new 3M Piezo Inkjet inks series 2600 UV are, according to 3M, the first flexible (meaning they adjust to curved surfaces), durable, UV-drying piezo inks on the market. 3M offers the Vutek Ultravu 150 printer, a 150 cm wide large-format spool printer that can print

up to 28 square meters per hour, exclusively in Europe.

NUR Macroprinter

Israeli manufacturer NUR showed the NUR Fresco II 8C 3200, as well as the new NUR Expedio 5000. The Fresco II 8C 3200 prints with 32 piezo print heads, using solvent-based pigment ink and eight colors, in resolutions of up to 370 dpi. It produces 21 square meters per hour in best quality and 37 square meters per hour at the highest speed. In four-color mode, it produces from 24 square meters per hour up to 102 square meters per hour.

The prototype of the 5-meter wide roll printer NUR Expedio 5000 can print up to 180 square meters per hour using UV inks. It also offers the choice of printing with four or eight colors. The first machine went into operation this August at Gescom S.p.A. in Viterbo, Italy.

NUR also showed its flatbed printer NUR Tempo, which can print with UV inks on plates up to a format of 318 by 200 cm and 5 cm thickness. With its 16 piezo print heads, it prints with four or eight colors at a resolution of up to 360 dpi at between 25 and 82 square meters per hour.

Infiniti Europe N.V.

Infiniti Europe of Kontich, Belgium, is the European subsidiary of the Chinese manufacturer Honghua Digital, Shanghai. They showed their two product lines under the names Xplorer and Infiniti, both of which are available with Spectra and Xaar heads.

Infiniti Europe N.V. started distribution in Europe in September 2003, and its managing director, Luc Teblich, claimed at Drupa to have sold 26 machines since then. The company showed its YF-3360LQ printer. It uses solvent-based pigment inks, has 320-cm print width, eight picoliters and four Spectra Nova LQ-256 print heads, and is available for only 99,000 euros in Europe. It prints with four print heads and resolutions of 180 to 720 dpi. At 360 dpi, it prints 30 to 50 square meters per hour. A new, 5-meter-wide print machine is expected to enter the market in October.

Scitex Vision

Scitex Vision, the undisputed market leader in wide- and super-wide format, surpassed \$100 million in sales for the first time in 2003. At its booth, the company focused on the Scitex Turbojet and the flatbed printer Scitex Gojet. It also introduced its super-wide-format Gojet printer, an inkjet machine that prints 320-cm wide. Priced at 140,000 euros, Gojet is Scitex Vision's answer to the new low-cost suppliers. Prices for the Grandjet and XLjet models remain unchanged.

The Gojet prints with 24 Xaar 128 print heads in four colors with pigmented ink and a resolution of 370 by 370 dpi from roll to roll. It prints onto the whole spectrum of substrates; differences in quality are caused by multiple overprinting. In the fastest two-pass

Infiniti-Europe nv
Kontich, Belgium
ph: 32 3 290 70 14
info@infiniti-europe.com

Lyson Systems
East Sussex, England
ph: +44 1825 764057
www.marrutt.com/
contact.php

Scitex Corp.
Tel Aviv, Israel
ph: 972-3-607-5855
www.scitex.com

The 320-cm wide
roll-to-roll printer
Infiniti YF-3360 LQ is
sold in Europe for
99,000 euros.



mode, it prints 65 square meters per hour. Increasing the quality using three-, four-, six- and eight-pass modes, it still produces 17 square meters an hour. Thanks to the multispool system, two more narrow rolls can be printed side by side.

Shenzhen Runtianzhi Image Technology Co. Ltd.

Intent on establishing European distribution, the Chinese manufacturer from Shenzhen displayed its super wide-format printer, Flora 3204 E, at the Xaar booth.

With a printing width of 320 cm, four or six print heads, four or six colors and resolutions of 180 to 360 dpi, the Flora 3204 E is comparable to American printers in features and productivity. It can print 60 square meters per hour in standard quality or 30 square meters an hour in highest quality. Like the other models in 150 and 180 cm printing widths, it uses solvent-based pigment inks. The 220 cm wide model uses UV inks.

Vutek

American manufacturer Vutek joined the price war with its new Pressvu 200/600, priced at \$199,000. With a printing width of 2 meters, it can print from roll to roll or onto inflexible materials up to 4.5 cm thick. It is available in models using UV inks in either four or six colors. With resolutions of 360 by 600 dpi and six colors, it can print indoor or outdoor applications in photographic quality. It prints up to 33 square meters an hour in production quality and up to 19 square meters per hour in highest quality.

The Ultravu family, with printing widths of 1.5, 2, 3, and 5 meters, will continue to be available, but prices were lowered in August. The Ultravu 150 FC now costs \$135,000, the Ultravu 3360 FC is \$199,000, and the 5-meter-wide Ultravu 5330 is available for just \$349,000.

Flatbed Inkjet Printers

In addition to the previously mentioned manufacturer of roll and flatbed printers, the following companies displayed their models.

Durst Phototechnik AG

Durst has sold more than 120 of its Rho 160 flatbed printers over the past two years. For Drupa, the company added white ink to the Rho 160, and called it the Rho 160 Plus. The white ink can be used to frame a picture, as spot color for text or logos, to fill gaps in the background, or as a foundation for a colored medium.

The Rho 205/8 (205 cm instead of 160 cm feeding width) hit the market at the end of 2003. Prior to Drupa, Durst had already sold more than 40 Rho 205/8. Compared with the Rho 160 (with eight print heads), it has half the print speed and a lower starting price: 235,000 euros. In highest quality it prints 10 square meters per hour (Rho 180 Plus prints at 18



square meters per hour), but it can be upgraded to 16 print heads to produce 20 square meters per hour. The feeder/stacker, which was introduced at Drupa, takes the plates from the stack and automatically feeds them into the Rho printer, allowing one man operation even at full production.

Inca Digital Printers

Like Elmjet and Xaar, Inca was spin off from Cambridge Consultants in England in 2000. The first product it brought onto the market in 2001 was the Eagle 44. Since then, it has developed a product line that includes the Eagle H, the Columbia and the Columbia 220.

Inca completed its product line for Drupa with the Columbia Turbo and the Spyder 150. From the beginning, Inca had a close partnership with silk-screen ink manufacturer Sericol, which not only developed the inkjet inks for Inca, but also manufactured them and took over the worldwide marketing of the print systems. With more than 100 systems sold, the partnership has paid off for both companies.

The Columbia is available in three versions, up to a format of 320 by 220 cm. With its 16 Spectra Galaxy print heads and four colors, the Columbia prints up to 130 square meters per hour. With the installation of 64 print heads, the Columbia Turbo now reaches 160 square meters per hour in normal mode, 120 square meters an hour in medium, and 75 square meters per hour in highest-quality mode. Its resolution of 800 by 1,200 dpi allows even six-point text to be displayed legibly.

The Columbia Turbo, which will be installed for the first time this year in Germany, costs \$750,000. The Spyder 150 is a newcomer with a width of 152.4 by 101.6 cm, which prints in three modes: 50, 40 and 24 square meters per hour. As soon as it is ready for delivery, it, too, will be installed in Germany this year, priced at \$320,000. Sericol has assigned marketing to Metocolor GmbH of Siegen for Germany, Austria and Switzerland.

Lüscher AG

Swiss manufacturer Lüscher debuted its flatbed printer JetPrint 3530UV, which has a unique, fixed-standing vacuum table and uses Spectra Piezo print heads to

Scitex Vision offers the GoJet in 320-cm printing width for a price of only 140,000 euros.

Durst Phototechnik AG
Brixen, Italy
ph: + 39 0472 81 01 11
www.durst-online.com

Inca Digital Printers Ltd.
Cambridge, U.K.
ph: +44 (0)1223 577800
www.incadigital.com

Lüscher AG
Leutwil, Switzerland
ph: 0041 627677677
www.luescher.com

Shenzhen Runtianzhi Image Technology Co. Ltd.
Shenzhen, China
ph: 86-755-82057358
www.runjiang.com

Vutek
Meredith, N.H. 03253
ph: 603-279-4635
vutek.com

print with 1,024 jets per color. With UV inks from Sunjet and a real resolution of 400 by 400 dpi, it can print on almost all rigid and flexible materials up to 80 mm thick, as well as gang printing. The eight colors can be printed with four, six or eight (or two by four) different UV inks, including white, and it can reach speeds of up to 100 square meters per hour (at eight colors).

Océ Digital Printing

Shown for the first time two years ago, the flatbed printer Océ Arizona T 220 was introduced as a UV printer. It can print on flexible or rigid materials up to a format of 157 by 305 cm and 5 cm thickness, with six UV colors CMYK, CL and ML. At a resolution of 309 by 309 dpi, it prints 15.8 square meters per hour in four-pass mode and 8.4 square meters per hour in eight-pass mode, and costs 175,000 euros.

As a hybrid newcomer model for roll and flatbed printing, Océ showed the Océ Arizona 60 UV, priced at just 39,500 euros. The maximum print format is 152 by 244 cm with a thickness of up to one centimeter. Its ability to print UV inks directly onto uncoated rigid or flexible materials makes it of particular interest to sign manufacturers, reprography companies and all print service providers. In four-pass mode, it prints with six UV colors and 309 by 309 dpi resolution up to 5.1 square meters per hour.

Zünd Systemtechnik AG

Aside from its slicing machines, Zünd Systemtechnik showed three new flatbed printers. The UVjetXZ-Flat is based on the Zünd flatbed plotter and is available in the 80 by 76 cm, 122 by 76 cm and 122 by 116 cm print formats. It prints with four colors, 720 dpi real resolution, and has very precise material guidance. It can therefore print on 3-D lenticular lenses up to 24 lines per centimeter. The printing speed is 2 to 6 square meters per hour.

Zünd has sold 275 machines since the end of 2001, and the UVjet 215-C55 is its most popular flatbed printer. For Drupa, the UVjet 215-C55 was upgraded to six colors and made 50% faster. With a print speed of 13 to 26 square meters per hour at 360 dpi, and a

printing width of 215 cm, it remains one of the most attractive printers.

Zünd also introduced its next-generation flatbed printer, the Ufjet 250-Combi. It will print in four or six colors, up to 250 cm wide, with a resolution of 400 dpi. It can print on substrates up to 10 cm thick and produces between 10 and 20 square meters per hour. It will be available at the beginning of 2005 for about 280,000 euros.

Industrial InkJet Printing

The most important exhibitor in this sector was Dotrix, the Belgian company that was taken over by Agfa earlier this year. With UV inks, the factory printed at Drupa packaging boxes on half-cardboard.

Conclusion

Almost all of the manufacturers of digital color printers use dry toner printing. Only the HP Indigo uses "electro ink," which is liquid toner that consists of oil with offset ink pigments. That is why digital color prints from an Indigo press look more like offset prints than dry toner prints.

High Viscosity Toner (HVT) seems to be nearly identical to Indigo's liquid toner. By offering HVT to all digital press manufacturers, ARL emphasizes the benefits of its toner compared with dry toners. The small pigment size of 1-2 microns, the very thin ink layer of less than 2 microns on the paper, the offset-like appearance of the prints and the option to run presses much faster because pigments will not be airborne when the speed accelerates are good reasons for dry toner press manufacturers to consider switching to liquid toner printers.

Whether press manufacturers will actually deliver such HVT ink at the low price that ARL promises remains to be seen. After all, overcharging customers for ink cartridges with liquid toner is the main business of consumer inkjet printer manufacturers.

Nevertheless, we would not be surprised to see a printer for high-end production and quality with high-viscosity toner within the next two or three years. **TSR**

Agfa-Dotrix NV
Gent, Belgium
ph: +32 3 444 47 11
[www.dotrix.be/
index.htm](http://www.dotrix.be/index.htm)

Océ N.V.
Venlo, The Netherlands
ph: (31) 77 359 2222
[www.oce.com/en/
default.htm](http://www.oce.com/en/default.htm)

Zünd Systemtechnik AG
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www.zund.ru

Crossbase in Action at the Fischer Group

BY BERND ZIPPER

Print and media companies would like to generate products for print, online and CD-ROM from a single source in their database. The German/Austrian company Crossbase Mediasolution is addressing this trend with its cross-media DAM platform, bringing to life the concept of "single-source publishing." We report on how one well-known company is using the platform to produce multiple products in several languages from a single source.

The Fischer Group (www.fischerwerke.com) is known worldwide as a manufacturer of building technology (Fischer Fixing Systems), interior components for automobiles (Fischer Automotive) and construction kits (Fischertechnik). Based in the Black Forest community of Waldachtal, Germany, the Fischer Group (www.fischerwerke.de/index_flash.html) is also considered one of the world's great idea factories and has to its credit roughly 2,000 inventions in building technology and automotive systems.

In early 2000, the Fischer Group realized it needed to link internal data sources with the Internet and generate price lists and catalogs in multiple languages. After a few false starts, the Fischer Group settled on Crossbase's (www.crossbase.de) Cross Media Suite of applications. As a result, Fischer can now do database publishing via Adobe InDesign 3.0, produce catalogs, manage translations, provision data to external portals and databases (www.crossbase.net), allow online access to the Crossbase databases and convert data for CD-ROM. It also can generate sales documentation through the system.

Single Source for Multiple Media

The main focus of Fischer's project was to establish a central online catalog that could be accessed internally on the intranet and externally over the Internet. The company also wanted to produce its print catalog almost automatically and achieve tight integration with the company's SAP enterprise resource planning (ERP) system.

At the core of the Crossbase system is a central, Oracle-based, media-neutral database called crossbase.data, which links all the modules. This is where all image files, graphics, attributes and marketing text are managed and made available to the production modules. The interface module for crossbase.pro is crossbase.out, which provides formats such as XML, CVS (concurrent version system) and the BMEcat standard

for electronic trade, and therefore ensures wide support of existing computer structures.

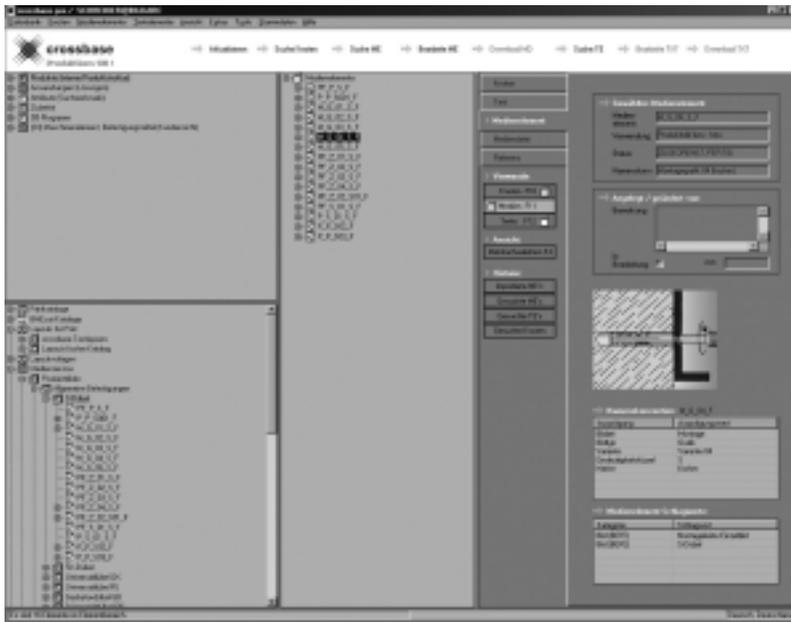
Also integrated is a Microsoft Webserver IIS, which together with the crossbase.catalog module ensures Internet functionality. Merging data from computer systems takes place via an easy-to-use CVS interface. Fully equipped, the Crossbase system has the ideal infrastructure to generate media-comprehensive print and online products. At Fischer, Crossbase makes use of InDesign 3.0, but the system is also available for Adobe FrameMaker or Quark Xpress.

Structure Establishes Order

Crossbase's media-neutral database supplies print and online production at Fischer with optimized file structure and handles all types of data, including images, text, XML-Files, PDFs, etc. The user keeps track of everything through the internal media archive and has different views of the data sets. Depending on the module chosen, the database can generate documents for a

TSR correspondent Bernd Zipper (left) meets with Artur Fischer (left, center), the inventor out of the black forrest. Also in the picture are Martin Schreiber and Thomas Kern of Crossbase (right).





The product database compiles all information for a later product presentation into a document.

catalog, BMEcat, product or media view. This helps Fischer employees compile the necessary information and ensures maximum flexibility during the maintenance, editing and revision of the articles and the production of various advertising media, such as catalogs, brochures, flyers, price lists and even online files for the Web server.

This has made setting up for new articles very easy for Martin Schreiber, who manages Fischer's database. Merchandise management is converted into a CVS file that functions as an export file, which is then implemented into crossbase.pro. Schreiber takes over the product view he has defined, duplicates it and imports the data. He matches the images with the appropriate captions and approves the new article.

Schreiber can determine whether the end customer or only the specialized dealer on site can view the new

article in the online catalog. Due to the extreme speed of production, this is especially vital when it comes to implementing new products. Schreiber uses templates from the database as a model for each new action, which allows him to organize and modify the database for new end products for print and Internet.

During our visit, we saw the production of a catalog for building systems consisting of 260 relatively complex pages that included images, charts and text. After the initial implementation of page templates and the first production, approximately 230 pages of the catalog were generated automatically via crossbase.pro and InDesign.

Schreiber derives the language variations from this "master document" and generates them as layers for InDesign. Prefix and marketing pages, in part produced manually, were linked with the end product. With InDesign 3.0, PDFs are generated to deliver data to the printer. After a preflight with Enfocus PitStop Professional and internal clearance, the pages go to print.

Altogether, Fischer invested three months in creating templates, transferring data, creating the text and producing the final catalog. The company achieved all this without increasing the total page count of the final printed product — a common occurrence with automated page production.

To make this possible, a product structure was first set up for each product. This means that in addition to the actual article description through templates, respective associations for layout, charts and media used (images, etc.) also are defined. This will later enable access to the separate media elements. The media elements again are filed away in six different variations. Depending on the intended purpose, this allows for usage of the appropriate file version in optimized resolution, size and color depth.

The text elements are arranged manually with predefined tags. From within the input interface, the user can double-check the preview. A version converter via crossbase.trans is available to help to translate the text into different languages. Predefined text, image and layout rules are inserted into yet another template, which defines the assignment to the corresponding page. This happens via crossbase.layout, where the rules and relations (the proportions of the individual page elements) are defined as well.

Next comes the assignment of the page to a chapter and then to the end product. To do this, the entire page first must be stored in a temporary buffer before being automatically placed using InDesign.

The Fischer catalog required 50 different layout templates, but when it came to generating the language varieties, the effort paid off. Skeletonized data sets are available over the Internet for the approximately 15,000 online catalog users (mostly specialized dealers). At the same time, the catalog is distributed to other external suppliers, so a customer can also gather detailed information about Fischer products. Through

The online database enables the user and the specialized dealer on site to view the latest products and illustrations in real time.



universal XML structure and a powerful Oracle database, user inquiries can be presented quickly and reliably, and with current information.

Fast, Effective Production

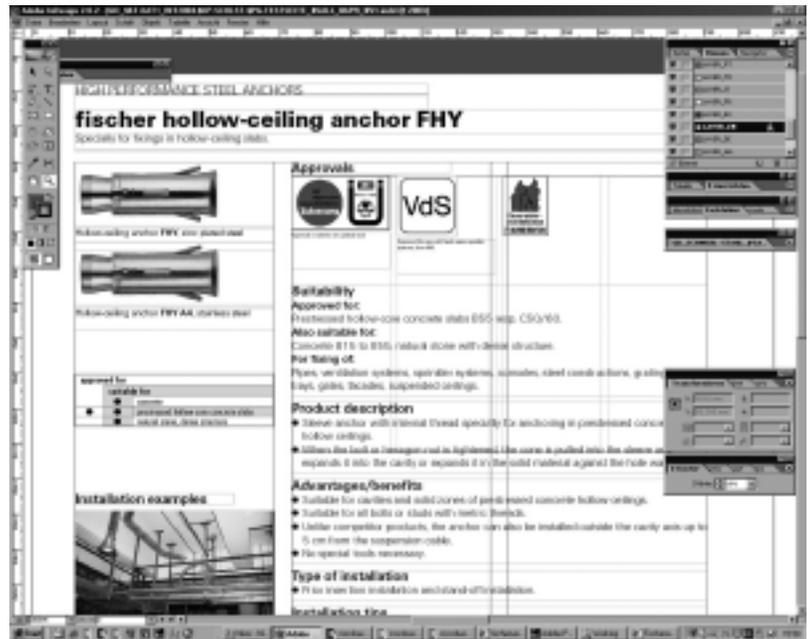
By implementing the system in “small steps” and collaborating with Crossbase, Fischer was able to establish a well-rounded cross-media system. Crossbase not only made the necessary software available, but also consulted with Fischer during the implementation. “The modular standard software gave us the flexibility to adapt the solution tight to Fischer and the certainty to be supported in the long run,” said Fischer database manager Schreiber. By customizing and predefining the structure, Fischer was able to optimize the administration and utilization of the system in terms of time as well as personnel. Of course, Fischer had to install the right server structure (in this case, a Windows Server system), but the biggest job was to set up the templates for a CI-compatible layout. “After two or three months, we were ready to start production,” said Schreiber.

In the past, producing the Fischer print catalog required several months of set and layout work. By using Crossbase Suite with Adobe InDesign 3.0, Fischer reduced production time to just a few weeks. The system proved especially beneficial when generating foreign language versions of the catalog, and Fischer reduced total production time by 70%. The implementation of Adobe InDesign 3.0 clearly improved the set quality of the print products, which is produced automatically via the crossbase database. Data is distributed to the print shop via Adobe PDF.

As a result of the up-to-date provisioning of product data, usage of the Web site has skyrocketed. More than 15,000 users worldwide now utilize the Fischer online catalog every month, and the previous effort to prepare data for presentation on the Internet has been abandoned.

Previously, the provisioning of product information for the target groups of merchants and partners was done manually, but thanks to the Crossbase database, users can now compile and download images themselves. The process has now been almost entirely automated, and customers and purchasing organizations can now access BMEcat data directly. The total effort involved in compiling product information was reduced by 80%. Furthermore, the system makes available to planners and architects important approval information that is always current and contains the effective date.

The effort to install such a system is immense, but Fischer’s implementation of the Crossbase Suite is a great example of how “enterprise publishers” will produce documents in the future. “Our personal demand in production is to deliver just in time and accurately,” said Schreiber. “With Crossbase, we were able to come to a solution with optimized effort at the right time,” he said.



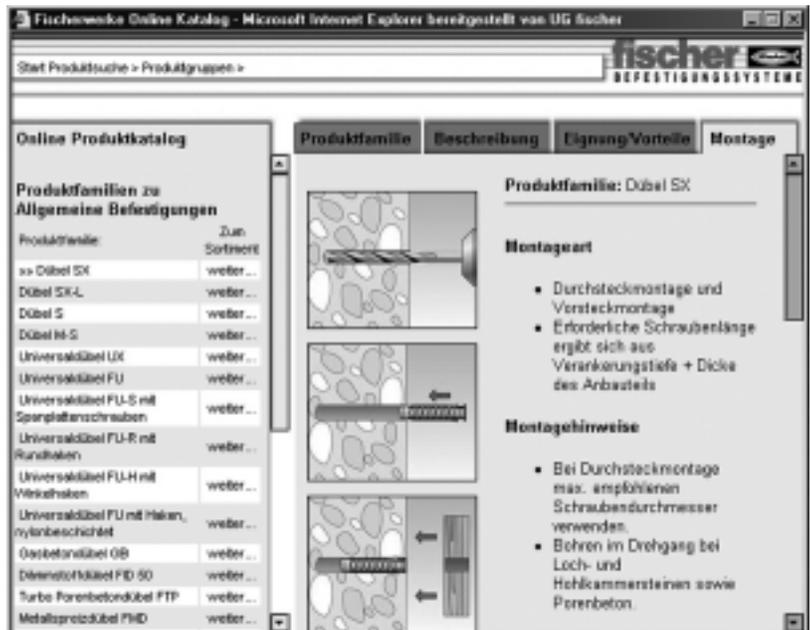
Conclusion

Certainly a system like Fischer’s Crossbase Server cannot be set up in a single day; just the training for a cross-media system is a hard job. But once the system is in place, the user is one step closer to automating the entire print production chain. Installing a cross-media platform will necessitate changes in workflow. All the steps of creating and designing a layout have to be done before the user starts to bring in the content. This means that the user will have to test a layout with real data and modify the designer’s ideas to fit the layout. The benefits are that industry users, catalog producers and others who need well-structured catalogs will achieve a production speed they had never imagined.

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The data in the product database are transferred to InDesign 3.0 in automated form. The screenshot still shows the previous version of InDesign 2.0.

The entire catalog is also available automatically online. This is important so that the final customer can find the right product and application mode.



Metadata in Corporate E-Learning

BY PHILIP HODGETTS

E-learning isn't limited to new material. By using metadata and other tools, training content owners can convert existing content into e-learning or create e-learning content to package with new content.

Driven by metadata and Web technologies, e-learning is a publishing platform that presents opportunities for content owners and publishers. Corporate e-learning was a \$4.5 billion market in the U.S. in 2004, according to a report by International Data Corp.

Why E-Learning?

Traditional corporate education is expensive, time-consuming and constantly changing. Some societal metatrends compel companies to embrace e-learning, but ultimately the factors driving e-learning are lower costs, more efficient training, responsiveness to rapid change and learning management.

E-learning, which is delivered contextually whenever and wherever the knowledge is needed, shares many similarities with workflow training or performance support, including a modular structure and user control of the learning. Network delivery makes it easy to roll out updated knowledge and track who has and who hasn't reviewed new material.

The modular structure and management system ensures that each employee sees the content relevant to his or her needs. As business needs evolve, the e-learning content at the central location is updated and immediately made current for all users, whatever their location or time zone.

Management functions in many e-learning implementations provide supervisors with immediate feedback on skills and adaptability. And e-learning makes it easier to manage large volumes of content and maintain its currency because it is built on databases and metadata — data about the data.

Metadata, Sharable Content Modules, LMS

Shareable Content Modules (SCOs), also known as learning objects, are re-usable blocks of training and an essential element for delivering customized e-learning. What makes these SCOs useful is that information about the content and how it can be used is created as metadata and is stored separately from the content, either in a database or packaged with the content as XML (eXtensible Markup Language is a superset of HTML).

SCOs are most efficient where units of learning can fit into multiple courses; the modularity prevents wasted effort. Content from multiple sources can be linked using the metadata associated with the learning object into multiple flexible courses.

The Department of Defense-sponsored Advanced Distributed Learning (ADL) Initiative (www.adlnet.org), a consortium of government, industry and academia, has developed interoperable standards for learning tools and course content. The major outcome of this working group is the Sharable Courseware Object Reference Model (SCORM), but the ADL Initiative is also developing standards for repositories of electronic content, game-based learning, simulations, intelligent tutoring and “traditional” performance support.

Other standards for shared repositories of knowledge include the Dublin Core Protocol (www.dublincore.org) and the W3C organization's Resource Description Framework (www.w3.org). These related initiatives use metadata to describe the content and express that metadata in XML. While the XML descriptions of data are different in each protocol, interchange is possible because XML not only contains the content but also describes the purpose of the content. XML is extensible because XML schema (sets of tags) can be created for almost any purpose.

XML and Metadata

Using an XML-based workflow allows for integration among metadata authoring, packaging of content, learning management systems (LMS) and publishing systems. It provides the flexibility to customize delivery to be network-aware.

In the ADL's SCORM standard, XML is used to package and distribute metadata. Other e-learning implementations store metadata in a database and associate it with the content. For practical purposes, they provide the same benefits (without interoperability). The metadata is more important than where it's stored. Metadata within databases can be converted to XML using a number of conversion tools or functions built into the database. Metadata is valuable no matter how it's expressed and should be stored separately from

E-Learning Solution Sources

The corporate e-learning market offers multiple models for creating and delivering e-learning, from companies that create tools to full-service providers that will create content, build courses and host the results. Companies rarely fit neatly into a single category because most provide overlapping services. These are by no means the only solution providers, but they represent a cross-section of what's available.

Content Creation and Publishing

Any HTML or rich media creation tool can be used to create content for e-learning. Macromedia Flash is a popular tool both for animation development and as a front end for e-learning applications linked to online databases.

Web-Based Learning Systems

These use standard Web technologies, usually via some form of ASP (application service provider) model delivered to a user's browser. Typical of the solutions available in this market are those from Knowledge Planet (www.knowledgeplanet.com) and Allen Communication Learning Services (www.allencomm.com).

Project-Centered Enterprise Learning

International Data Corp. expects this market to reach \$23 billion this year. Large organizations with specific learning objects create custom solutions using third-party tools or hire complete service providers to manage the process for them. Typical of this class of provider are conference participants Commandtext (commandtext.com), Image Plant in New York and TechBooks (www.techbooks.com). Another provider to consider is General Motors' choice, Unext (www.unext.com).

Courseware and Value-Added Services

These providers offer integrated learning solutions to

create ready-to-play Web-based courses from existing training content or from a stock of standard courses. Typical examples are Vcampus (www2.vcampus.com), SkillSoft (www.smartforce.com) and MindLeaders (www.mindleaders.com). Suppliers in this category are frequently educational portals or e-tailers, as well as service providers. For example, Aerolearn (www.aerolearn.com) is both an aviation industry knowledge hub and an ASP service provider.

Knowledge Hubs, Portals or Educational E-tailers

These providers have courses available for purchase directly by the public for self-paced learning or corporate use. They are particularly valuable for smaller corporations that lack the resources for large investments in project-centered enterprise learning or to build courses. Knowledge hubs tend to aggregate around specific industries: ABAeLearning (www.aba.com/default.htm) for retail and small business; the Association of Independent Corrugated Converter's (www.aiccbbox.org) Knowledge Hub for the corrugated box industry and Intelligent Assistance's software-based Hub (www.digitalmedia-hub.com) for digital media content creators, for example.

This category also includes larger organizations that manage the complete e-learning functions for universities or other education providers. Bisk Education (www.bisk.com), for instance, sells e-learning directly to end users on behalf of its content partners using a subscription model. Like Bisk, Cardean University (www.cardean.edu) and E-Learning Institute (www.elearninginstitute.com) not only provide e-learning courses directly, but will work with content partners to convert conventional course material to an e-learning form and manage the entire process.

At the other end of the e-learning spectrum are direct-to-consumer trainers such as Brainbench (www.brainbench.com/xml/bb/homepage.xml) and Tek.Xam (www.tekxam.com).

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— Philip Hodgetts

the data. (See the SCORM XML example, page 19).

For clarity, it's important for the tools to hide the complexity of the metadata from the authors. The author should only be presented with metadata options that are congruent with the content and schema being used.

SCO Reference Model

SCORM defines the technical foundations of a Web-based learning environment that assumes the existence of a learning management system. For SCORM, the LMS refers to a suite of services that launches content (and tracks assets), keeps track of learner progress, manages the sequencing of learning objects and reports on student mastery. By promoting a set of open standards, SCORM makes the content independent of the LMS. SCORM-compliant content will work with any

SCORM-compliant LMS.

SCORM achieves interoperability by packaging information about the content within the learning object package. This Content Aggregation Model (CAM) within SCORM contains learning object metadata, which is a dictionary of XML tags that describes learning content in terms of what the content is, who owns it, what it costs (if anything), technical requirements, educational purpose, etc. These tags are expressed in CAM as XML: machine and human readable ways of identifying what each piece of metadata is referring to — self-identifying data, if you will.

Beyond the individual CAM, SCORM defines how courses are assembled from individual learning objects into a package with content and an XML file (manifest) that describes all the contents and how they relate to each other in a course.

SCORM XML Example

This SCORM XML example has no training content but contains the name, keywords, language version, format, location, educational tag and rights information about a single JPEG image. It does not contain the actual "anchored.jpg" that it refers to. The JPEG itself is in the Course01/Lesson01/pics folder. Keeping the metadata separate from the data allows it to be more flexible.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE RECORD SYSTEM "..\..\dtd\IMS-MD01.dtd" >

<RECORD xmlns="http://www.imsproject.org/metadata">

  <METAMETADATA>
    <METADATAScheme>
      ADL SCORM 1.0
    </METADATAScheme>
  </METAMETADATA>

  <GENERAL>
    <TITLE>
      <LANGSTRING>
        Navigation Lights while anchored
      </LANGSTRING>
    </TITLE>
    <CATALOGENTRY>
      <CATALOGUE>
        ADL Sample Courses Catalog
      </CATALOGUE>
    </CATALOGENTRY>
    <DESCRIPTION>
      <LANGSTRING>
        Vessel at anchor with deck illumination
      </LANGSTRING>
    </DESCRIPTION>
    <KEYWORDS>
      <LANGSTRING>underway vessel</LANGSTRING>
    </KEYWORDS>
    <KEYWORDS>
      <LANGSTRING>navigation lights</LANGSTRING>
    </KEYWORDS>
    <KEYWORDS>
      <LANGSTRING>anchored</LANGSTRING>
    </KEYWORDS>
  </GENERAL>

  <LIFECYCLE>
    <VERSION>
      <LANGSTRING>1.0</LANGSTRING>
```

```
</VERSION>
<STATUS>
  <LANGSTRING>Final</LANGSTRING>
</STATUS>
<CONTRIBUTE>
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    <LANGSTRING>Graphical Designer</LANGSTRING>
  </ROLE>
  <CENTITY>
    <VCARD>
      BEGIN:vCard
      ORG:ADLI Project, Concurrent Technologies Corporation
      END:vCard
    </VCARD>
  </CENTITY>
  <DATE>
    <DATETIME>2000-01-27</DATETIME>
  </DATE>
</CONTRIBUTE>
</LIFECYCLE>

  <TECHNICAL>
    <FORMAT>
      <LANGSTRING>image/jpeg</LANGSTRING>
    </FORMAT>
    <SIZE>13843</SIZE>
    <LOCATION>
      Course01/Lesson01/pics/anchored.jpg
    </LOCATION>
  </TECHNICAL>

  <EDUCATIONAL>
    <LEARNINGRESOURCEType>
      <LANGSTRING>Figure</LANGSTRING>
    </LEARNINGRESOURCEType>
  </EDUCATIONAL>

  <RIGHTS>
    <COST>
      <LANGSTRING>No</LANGSTRING>
    </COST>
    <COPYRIGHTOROTHERRESTRICTIONS>
      <LANGSTRING>No</LANGSTRING>
    </COPYRIGHTOROTHERRESTRICTIONS>
    <DESCRIPTION>
      <LANGSTRING>
        U.S. Coast Guard, Commandant Instruction
        M1667202C
      </LANGSTRING>
    </DESCRIPTION>
  </RIGHTS>
</RECORD>
```

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Although SCORM compliance is a worthy goal and adds the maximum value to the content, most current e-learning is not yet SCORM-compliant.

Deriving Metadata

Metadata cannot be created automatically. A good authoring tool will require entry of appropriate metadata during the authoring process. Certainly, SCORM-compliant tools will “force” entry of all required metadata, but additional metadata for custom solutions has to be derived and added manually into whichever system or database is being used.

Tools and Solutions

There are many routes to take when implementing e-learning. Corporations can convert existing content by buying the tools or hiring a service provider, or they can outsource new content development, authoring and hosting. If you create and deploy e-learning within a corporation, you’ll need to choose tool vendors carefully and make sure you have adequate in-house expertise to handle the tools.

Most e-learning projects use a combination of in-house management tools and include content developed by external specialists to create or install the necessary infrastructure with tools for easy addition and modification of content by staff members.

If you take a standards-based approach, your vendors will have to establish precisely which standards they are compliant with and how compliant they are. Ask them to demonstrate interoperability with third-party tools and especially to show interoperability with the established tools in your workflow. You’ll need tools for creating and managing content and for building curriculum, as well as tools for incorporating metadata. In addition to determining the most appropriate LMS for your needs, you’ll need hosting, bandwidth and SCORM-compliant delivery tools.

Content Creation

Content can be created in any rich media content tool and integrated using standard Web technologies, or content can be created with custom tools designed for a pure XML-based workflow and delivery.

Basing content development on XML and SCORM standards allows it to be re-used in customized curriculum or remedial instruction. If you’re building content and curriculum together, an XML-based workflow for content creation, integration and delivery is recommended.

All content will need metadata, either XML-based within a SCORM framework or in a form suitable for delivering and managing the content, usually a database.

Tracking and Evaluating

Learning management systems by definition manage and track the progress of learners by controlling access to e-learning and reporting results to management. Custom e-learning implementations frequently track users directly. The custom training solutions created for Fortune 500 companies by Image Plant, a New York-based provider of e-learning solutions, for instance, are delivered directly to a salesforce’s PDAs, so SCORM tools are not relevant. Not only is each component in the training targeted, but it can be tracked in real time. Management sees up-to-the-second user and assessment statistics via a dynamic Web page.

LMS is usually independent of any current document or content management and is more closely aligned with human resources departments’ enterprise resource planning systems. Currently, an LMS is maintained independent of the ERP system, but LMS functions might be added to ERP systems in the future. Custom integration with ECM or CMS systems could be created using XML data interchange.

To create custom metrics, plan them during the project-initialization phase. Run with a small test group as a class of users to measure and evaluate that the metrics are being accurately tracked (technological testing) and represent useful and accurate data. Evaluate these results before doing a full implementation and your final results will be closely aligned with your organizational goals.

Summary

As a growth market, e-learning presents a tremendous opportunity for publishers looking for new markets and for corporations seeking to reduce their overall training costs. E-learning is built around modular content that can be re-used in multiple contexts. Using standards-based content modules and learning management systems provides maximum compatibility and flexibility moving forward, though not every e-learning solution is (or will be) SCORM-compliant.

Simply having content modules is not enough. E-learning requires metadata describing the content and its uses. Expressing the metadata in XML form permits machine-derived flexibility. When developing or specifying e-learning solutions for your company, start with your goal in mind and work back to the specific tools or solution providers you need. **TSR**

About the Author

Philip Hodgetts is CEO and content writer for Intelligent Assistance (www.intelligentassistance.com), which develops real-time, intelligent multimedia support and coaching tools for digital media artists and content creators.

In The Bulletin Since Last Issue

**Volume 10, Number 1
October 6, 2004**

Adobe and GeoTrust Partner To Classify Sensitive Documents

In an era of loose lips, leaked documents and phishing (collecting personal identification data via e-mail solicitations), Adobe Systems has found a way not only to lock the contents of a PDF file but to verify the document's provenance and restrict its reuse electronically.

Newsstand. Funds managed by CVC Capital Partners acquired the printing inks and printing plates operations of BASF; The Hayzlett Companies acquired *Graphic Communications World*; Presstek announced that the purported securities class action lawsuit brought against the company and its former CEO and former CFO has been dismissed; Pitney Bowes is consolidating all of its operating activities; The U.S. National Labor Relations Board accused Quebecor World of violating federal labor laws; A&F Computersysteme has chosen Smart Connection Enterprise by WoodWing; Magazine Publishers of America and its member companies have united to launch a three-year initiative to boost awareness in the advertising community about the effectiveness of consumer magazines; IO Integration merged with Media Automation Specialists of Dallas.

**Volume 10, Number 2
October 14, 2004**

Graph Expo, Chicago. The International Cooperation for the Integration of Processes in Prepress, Press and Postpress (CIP4) announced the election of its Advisory Board and Board of Directors; Xerox introduced a color wide-format inkjet printing system; Xerox also announced a line of wide-format paper and specialty media designed to maximize print quality on wide-format printers; Creo and Xerox launched the Spire CXP3535e color server for the Xerox DocuColor 3535 color copier/printer system; Creo and KBA North

America demonstrated Creo Spotless printing in the KBA booth; Creo also is demonstrating new automation features in Creo's PDF packaging workflow; The Prepress Training Solution announced immediate availability of two new online training courses; HumanEyes Technologies debuted HumanEyes Capture3D; Agfa and Lastra for the first time showed and demonstrated their plate and CTP system technologies; Agfa also introduced its Grand Sherpa m series of seven-color, piezo-electric inkjet proofers; Agfa's new Acento platesetter is now shipping in North America; Agfa and Dynagram announced the certification of DynaStrip with ApogeeX 3.0; Jetrion LLC introduced new coating developments; EFI launched its next-generation Fiery System 6 Software and the Fiery Q5000 color server; EFI announced the Fiery Graphics Arts Package, Premium Edition; EFI announced a strategic initiative to bring Web-enabled variable data printing solutions to ad agencies, designers, graphic arts professionals and commercial printers; EFI is upgrading its family of PrinterSite Web-based products for print management customers; EFI has joined forces with Manhattan Associates; Enovation is offering Version 2.0 of OneFlow; Global Graphics is previewing the latest version of its JDF Enabler for the Harlequin RIP; Group Logic demonstrated two new MassTransit file transfer workflows; Group Logic showed automated file delivery and production automation for prepress workflows using new JDF support built into its MassTransit Enterprise product; Heidelberg USA announced another addition to its value added consumable products; Integrated Color Solutions announced a new RIP Partnership program; Océ demonstrated a wide portfolio of solutions to increase business for graphic arts shops and commercial printers; XMPie announced the launch of its newest software, uDirect developed specifically for Adobe InDesign CS.

In Other News. Rupert Murdoch's News Corp. announced a significant investment in News International Ltd.; Océ's third-quarter revenues decreased by 1.1% to 645.7 million euros; Canon U.S.A. announced the addition of the new imageRUNNER Pro 125VP and imageRUNNER Pro 150VP; Creo announced that it will expand the capacity of its West Virginia printing plate manufacturing facility; Adobe Systems announced the VDP Resource Center; Adobe also announced new benefits to the Adobe Solutions Network Print Service Provider Program; Sun Chemical announced that it has acquired the brand protection assets of Veritec Group Inc; Scanvec Amiable has agreed to acquire Treved, LLC; Bowne & Co. announced that it will sell Bowne Business Solutions to Williams Lea; RISO is introducing a new series of Printer-Duplicators; Rochester Institute of Technology's School of Print Media will be home to a gravure research library. **TSR**

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