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Spindrift

...Scandalising The Graphic Arts Industry Since April 2003

News Focus • Opinion
Reviews • Techno-Babble
Attitude

Volume 4, Number 9
2nd February, 2007

Future • noun **1** (the future) time that is still to come. **2** events or conditions occurring or existing in that time. **3** a prospect of success or happiness.

– From the Compact Oxford English Dictionary

Dear Reader,

It's hard to believe that in April Spindrift will be a mighty four years old. Ever since our first issue, change has been a familiar constant and this year looks to be no different. We start the year with the welcome addition of Nesson as resident editor, Cecilia takes on the editing of our shared articles. These are articles we write for our network of Publishing Partners and Clients. Cecilia's job is to impose a bit of editorial quality for said pieces, plus a dose of discipline that will help us all keep on track developing story ideas.

And there is no shortage of story ideas for this year. Amongst the many ideas under development, we are planning a series of articles looking at workflow systems based on Adobe's PDF Print Engine. Commercial products based on PDFPE (Paduffpy??) are expected to be coming onto the market in 2008, mostly at drupa. Add on technologies and workflow management tools developed by companies from the web world and IT, are also in the offing this year, along with the first efforts from the workflow Olympians such as Fujifilm, Agfa and Screen. We'll be looking at both ends of the spectrum in 2007.

But before we get to that, we've got our Spot Colour Proofing test to finish and report. We've been awash with positive responses to the project: virtually all of the major proofing systems companies are participating. More on this next month, so in the meantime ...

Enjoy!

The Spindrift Crew,

Laurel, Nesson, Paul and Todd

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JDF: Does it have a future?

While many printers are beginning to appreciate the merits of the Job Definition Format, publishers it would seem have yet to be convinced. Laurel Brunner talks with book publishers Macmillan...

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Keeping it under control

As presses are becoming more automated, press control systems are evolving to offer ever tighter colour controls. better integration with the rest of the workflow. This is key to production efficiency and colour quality control, and it provides vital data for colour management throughout the workflow. Laurel Brunner surveys the offerings from the main press manufacturers...

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A to X of PDF

Do you know your PDF/X-1 from a PDF/X-1a? Paul Lindström delves into the X-files to sort out the various PDF standards, covering everything from PDF/A to the forthcoming PDF/X-4...

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News Focus

In addition to the 160 page per minute Xeikon 6000 launched last September, **Xeikon** has launched two new digital colour printing presses: the Xeikon 4000 and the Xeikon 5000plus.

The new Xeikon 4000 entry level system prints on a wide array of substrates and formats up to 50 cm wide. It boasts Xeikon's unique One-Pass-Duplex™ technology and the X-800 DFE (Digital Front End). The Xeikon 5000plus is an enhanced Xeikon 5000 that now comes standard with a variable web input module, offering customers a unique format and substrate flexibility.

IBM is getting out of the printing business, selling its printing division to Ricoh for \$725m. This buys a 51% stake in Infoprint Solutions, a temporary joint venture with Ricoh that will employ about 1,200 workers. Ricoh will acquire IBM's 49% holding over the next three years.

IBM will receive \$725m in cash when the deal closes in the second quarter to cover its 51%, plus a prepayment for the remaining stake. The final price depends on what happens over the next three years, however analysts estimate that IBM should gain a further \$175m to \$275m on the venture.

"This agreement is key to Ricoh's efforts to become a leading global provider of output and print solutions. We will invest the necessary resources to make Infoprint Solutions Company into a core business," Ricoh CEO Masamitsu Sakurai said.

Digital Technology International (DTI) is to acquire Publishing Business Systems, North America's "leading source for integrated enterprise-wide newspaper business software systems". DTI is recognised for robust Editorial and Advertising solutions and a strong international presence, and PBS is known throughout North America for its Circulation, Advertising, Production and Business systems.

Océ has announced better than expected fourth quarter results with 'normalised' operating income up by 37.7% and strong positive free cash flow of €127m. Revenues for the year were €3,110.3 an increase of 16.2% over the previous year (€2,677.3).

In a separate announcement the company announced plans to accelerate its growth in Asian markets. Board member Jan Dix said that: "Today, worldwide there are some 25,000 high volume cutsheet systems in the end-user document market, and this market is to a large extent in the hands of two major suppliers. As stated in March 2006, Océ has the ambition to take 20% of this worldwide market in the next five years."

Presstek has announced estimated preliminary, unaudited revenue results for the quarter-ended December 30, 2006. Consolidated revenue is expected to exceed \$65m, excluding revenues from the now discontinued Precision Analog operation. The company expects a positive operating profit in the quarter, excluding charges from discontinued operations, and restructuring activities and special charges.

Apart from being sued by Cisco over its choice of name for its new me-too mobile 'phone, and being investigated by the US Securities and Exchange Commission (SEC), **Apple** has announced financial results for its fiscal 2007 first quarter ended December 30, 2006. Record revenues of \$7.1 bn and record net quarterly profits of \$1bn, say it all pretty much. In the same quarter one year ago, revenue was \$5.7bn and net quarterly profit \$565m.

Spindrift

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▼ Apple shipped 1,606,000 Macintosh computers and 21,066,000 iPods during the quarter. This is growth of 28% in Mac sales and 50% for iPods over the previous year's first quarter.

AVT, providers of automatic optical inspection and quality assurance systems, has reported record growth for 2006. Revenues for the year were up 13.2% to \$28.5m and net income reached \$5.4m. The last quarter of 2006 was AVT's 20th successive quarter of growth.

The company has also announced a distribution agreement with Nilpeter China to support AVT's growth in the Chinese market, particularly in the label and narrow web sectors. Nilpeter manufactures high performance narrow web presses integrating flexo, gravure and offset technology. Nilpeter entered the Chinese market in 2004 and has offices in Shanghai and Shenzhen.

Newspaper system developers, **Atex**, is buying Unisys Media, the newspaper slice of Unisys Corporation, and Mactive, Swedish front-end newspaper system developers. Unisys Media's owner, Norwegian investment group Kistefos, has raised \$50 million to take on the divested Unisys company. Following these acquisitions Atex will employ almost 600 people (!!!) generating revenues in excess of \$90m.

The Ghent Workgroup's new packaging specifications are now available to download at: www.gwg.org. This specification includes controls specific to packaging applications above and beyond print specifications for magazines, newspapers and commercial print, for example checking overprints.

Callas Software has introduced PDF/A (Archival) storage support in its pdfaPilot plug-in for Acrobat. With this tool PDF files can be converted to PDF/A quickly and securely. This is a Windows-only tool and is available for 25% off list price until the end of March

Callas PDF Inspektor3 CLI (Command Line Interface) is now available for IBM's Unix-based AIX platform.

Spymac has launched Leapfrog, a Web 2.0 portal for digital data sharing of video, movies, pictures and music via the Internet. It is available in over 15 international languages and works on both PCs and Macs. The company is also throwing yet another spanner into the advertising industry works by paying a percentage of its advertising

income to website members who upload the most viewed movies, music or pictures. Spymac expects to payout more than \$100,000 to its user base within its first month.

Belgian company **Augend Technologies** has introduced the Augend F16 claiming it is "the convergence between traditional screen-printing equipment and high-speed quality inkjet printing." Designed for printing billboards, bus shelter posters, scaffolding graphics and building wraps, this roll fed printer has optional UV-curing, images 105 to 250 gsm media up to 1.21 metres wide with a choice of 16, 24, or 48 Spectra Nova 256 printheads. Augend offers both solvent-based and UV-curable inks for this machine.

Xaar has approved Agfa's UV-curable inks for use with its Omnidot 760 printhead, co-developed by Xaar and Agfa for printing vibrant and lightfast colours for high-quality, durable results on indoor and outdoor prints.

Flowman Oy, the Finnish supplier of business process streamline solutions, has launched a trial version of its new HotFolders server software. This software connects different workflow processes through seventy workflow functions and hot folder-based workflow configurations. This generic tool works for any workflow automation, not just prepress.

EFI has announced a new means of supporting variable data printing (VDP) and providing a "significant new revenue stream opportunity" for its customers. The Fiery Freeform Kit helps customers implement personalised, one-to-one marketing campaigns with VDP examples for showing customers what's possible. These examples can then provide the basis for VDP jobs.

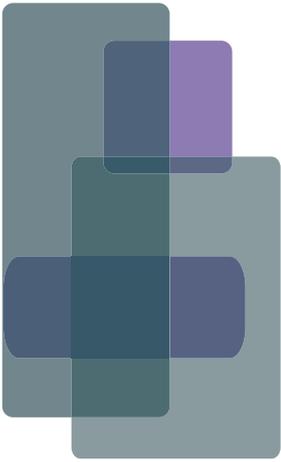
Océ and EFI have extended their cooperation and released Prismaproduction 3.10, output management software for driving the Océ CPS800 and CPS900 digital colour production systems with the EFI Fiery controller.

CGS has announced Fogra certification for both versions of its Oris Color Tuner software in combination with CGS premium proofing papers.

Vio, specialists in digital data supply chain management has purchased Adsend from the Associated Press for an undisclosed sum. Adsend is the dominant technology in the US for digital ad delivery and this acquisition strengthens Vio's US distribution adding 3600 publishers

and more than 500 advertising agencies to the company's customer base.

Agfa Graphics has announced its 3000th installation of the Intellsyst remote diagnostic system for ApogeeX workflows and other Agfa products.



Expandocs

(In this section, we aim to cast some extra light on a particular recent news story.)

Photoshop CS3

For the past year now Adobe executives have been dropping hints that version 3 of the Creative Suite will be arriving sometime this spring. We've already seen one component of it, Acrobat 8.0, and a month or so ago Adobe released a public beta of another component, Photoshop CS3.

Those of you working with Macs will be glad to hear that this version has been written in Universal Binary which will run natively on Intel Macs, leading to much faster performance overall. It will also run on Windows XP and Vista.

The most obvious new feature is a brand new interface. The main tool palette is now a single line, making it easier to keep handy, yet out of the way. You can still nest palettes together into tabbed collections, but there's now a second set of tabbed palettes beside the first. Both palettes can be collapsed down into a set of icons. Or, you can use the old interface if you prefer.

The Photoshop CS3 beta also includes a new version of Adobe Bridge, which has a more flexible interface, and a brand new black background. You can now view multiple images side by side, and group related images together. The tool palette gains a new Quick selection brush which lets you brush over an object and then automatically selects the edges. You can add extra areas to the selection, and deselect areas you don't want. It won't handle transparent edges or things like hair, but otherwise it works extremely well and is incredibly easy to use.

It's complemented with a new Refine Selection palette which lets you see the selection against various backgrounds, so that you can tweak the edges. This works with any selection tool, including the new Quick Selection brush.

There's a new Clone Source palette, which lets you see the source for a clone area as a semi-transparent overlay of your image, before you start cloning. You can also

change the clone source numerically and store multiple clone sources, including those from other images.

Adobe has finally introduced non-destructive filters whereby virtually any filter can be attached to a layer as a Smart Filter, without permanently altering the image, a bit like a Layer Style. This allows you to go back and hide or delete that filter, or change its parameters any time you like. You can also apply a mask to the smart filters.

A new Auto Align layers command matches up the edges of layered files to each other. It can be used for making panoramic images, but also for lining up bracketed exposures on different layers, which can then be selectively masked to produce the final image

To complement this, there's an Auto Blend layers command, for blending multiple images together, smoothing over differences in exposure.

There's a much improved Camera RAW, the tool for accessing digital photos, which now gains the Recovery, Fill Light and Vibrance sliders from Lightroom, as well as the Split Toning feature for altering the saturation of specific colours. Curves within Camera RAW also gains a Parametric adjustment, which lets you adjust sliders for highlights and shadows, and see the effect on the curve. Better still, you can also open JPEG and TIFF files and use all the Camera RAW controls to edit them.

Adobe has even managed to improve the Curves tool, adding the transparent histogram from Camera RAW, as well as a clipping warning.

Converting colour images to black and white is a whole lot better with a new Black and White adjustment. This lets you control the RGB and CMY colour information to produce a greyscale image that will still have plenty of depth when printed on a colour printer.

The Print and Print Preview menu items are merged together and the Print dialogue gathers all the print settings in one place, including a prompt to use Photoshop's colour management settings rather than the printer's.



All in all, this beta gives us a pretty good flavour of how Photoshop is shaping up. The beta is reasonably stable, and anyone with an Intel Mac will be better off with this than the current CS2 version.

You can download the beta from the www.adobe.com website. However, you will need a serial number for Photoshop CS2 or the Creative Suite 2, specific to the platform you are using. The final version is due to ship in Spring 2007, and the beta will expire then.

Acrobites

(Something to get your teeth into)

These aren't acronyms but we wanted to share them with you anyway. The person who made these definitions did so at a meeting between ISO and the ICC which was stuffed to the gills with very clever colour scientists whose names are lost in the fading shadows of middle aged memory.

Mononumerosis

a condition characterised by the obsession that all measurements should all be 1

Hypernumerosis

a condition characterised by the obsession that the bigger the number the better

GDSS

A Group Decision Support System is groupware that allows a large group of people to participate in a meeting via the computer. It's a bit like an Internet chatroom except that it works when everyone is in the same place. GDSS technologies can also work via the Internet, but the thing that makes them special is the fact that they are bi-directional and allow shared interactions amongst a large group of people. The technology is often used in teaching environments, but is especially useful for collaborative project planning, brainstorming and other situations that can get unmanageable. The fact that everyone in the meeting has to communicate via computer imposes a dis-

cipline on what might otherwise be more like unruly bun fights than proper meetings.

Say What?

(Iffy Writing Award Presented in the Ether for Obfuscation, Confusion, Misinformation or All Out Pretentiousness)

This month's Say What piece is brought to you by the folks at Esko with the announcement of a redesigned website. Given that just about every company does have a website we were expecting some pretty groundbreaking features.

According to Esko's press release: "The new site reflects a graphical style that is consistent with Esko's distinctive corporate branding."

Those of you not yet familiar with the concept of using your corporate logos on your website might also like to note the site's other innovations: "The new navigational path clearly displays Esko's products...Visitors can easily go from the home page to the information they need...The homepage also highlights the latest news, events and contact information."

Then again, we do fully understand the urge to send out press releases like this, having sent out a similar missive ourselves some years ago, which goes to prove the point that you should never take yourself too seriously.

Driftwood

(Useful stuff washin' up on our shores)

Open XML (or not)

Recently, the ECMA (European Computer Manufacturers Association) voted to submit the Microsoft Office Open XML standard for consideration as an ISO-standard. Well, so far so good – who can object to an open standard? One company which did object was IBM, not against an open standard, but to Office Open XML being considered an ISO-standard. The reason is that work has been underway

▼
for some years to provide a truly open and standardized way to save documents for interchange in line with XML. This work is named the ODF (Open Document Format).

In reality the Office Open XML Standard is a 6,000-page document about how to make files compatible with Microsoft Office documents. While this probably is very useful, it's perhaps questionable if it needs to be an ISO standard.

The ODF standard, at some 700+ pages, is a somewhat more manageable document to get to grips with. More importantly, it refers to the W3C (World Wide Web Consortium) general XML specification, not a vendor specific version of XML. So, does it matter, and who cares? Everyday Microsoft Office users might benefit from the Office Open XML, since there is a chance that documents produced in software outside the Microsoft sphere probably have a higher chance to open smoothly in MS Office. The more professional technical document publishers are probably better off sticking to the W3C version of XML as the base for their work, although they of course can't ignore the more or less proprietary MS versions of XML.

What would really benefit the publishing community as a whole, would be if Microsoft were to renew its commitment to the international and truly open XML development, hosted by the W3C, and follow that as closely as possible. There are many applications now that rely on XML as the preferred document format.

Apple TV

Speaking about XML – are you aware that the playlists in iTunes are saved as XML? Why should this matter? Well, it might matter if you want to connect your TV to your computer and/or iPod. This is what Apple TV is about – a wireless connection to the unit at the TV or Home Cinema system. Whatever you have downloaded or streamed to your computer or iPod, you can view on the TV.

While iTunes today takes care of possible differences between XML in Windows versus Mac, forthcoming software from third party vendors might need to offer support for a range of MPEG players as well as the iPod. If those play-

lists are saved in different versions of XML, and if those versions are incompatible, the home cinema experience may not be as pleasant as expected.

Boomerangs

(Your feedback fed back)

This isn't really a Boomerang to Spindrift, because it is about the International Graphic Arts Editors Forum. We have received several emails along these lines from journalists working in the graphic arts industry.

From: laurentius pram [mailto:praenam@yahoo.com]

Sent: 02 December 2006 02:46

To: xxxxxx

Subject: Re: Graphic Arts Editors Forum - please enter your details

Dear Laurel,

thank you for your attention, your web site are useful for me as graphic arts journalist in Indonesia.

Thank you very much.

regards,

L. Prambodo

So if you have case studies or white papers that you would like to make available to journalists using the IGAEF site, please contact us. www.igaef.org

Spindocs

(Where the spinner gets spun!)

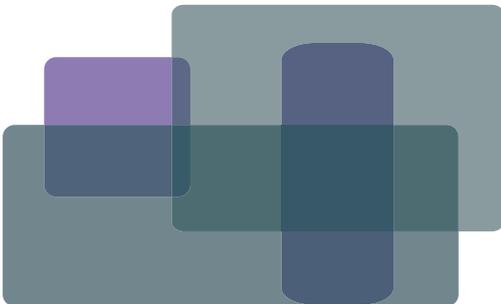
In a recent article entitled 'Consolidation Among (CtP) Suppliers' in The Seybold Report we learn, as the final conclusion, that:

“. . . if you select a platesetter from an independent manufacturer, you can renegotiate with the plate vendors

each year and save far more money. And if you are smart and stick with conventional plates, you can even avoid the doubling of plate costs that usually accompanies the switch to CtP.”

While the above may or may not be true (but we don't think it's true that digital CTP plate prices are double these days) it hasn't got much to do with the article's headline. In the listing of CtP suppliers the author ignores Agfa (except in an aside in the text describing Krause) and Fujifilm (apart from being mentioned as a Krause distributor for newspaper markets) while Presstek and Screen aren't mentioned at all.

We think that there is more to CtP developments than using conventional UV sensitive plates - the availability of and continued research on process-free plates ought at least not to be overlooked. Innovative CTP technologies for imaging and plates are under constant development by most of the vendors omitted from this article. Now why could that be?



JDF: Does it have a Justifiably Dazzling Future or is it Just Destined to Fail?

One of the biggest problems with data standards that apply throughout the supply chain, is getting everyone in the supply chain to adopt and support them. So it is with JDF and although printers have been quick to recognise its benefits, the response from publishers has been rather more lethargic.

This is not good for JDF, because unless publishers, as well as printers, adopt it, JDF's future will be limited to providing a basis for data sharing within the print environment. Without implementation at all points of the information delivery business JDF will remain confined to production data management processes, without fulfilling its potential for truly integrated content development, production, management and delivery. For this reason we decided to ask one of the world's leading publishers where they are with JDF and what they might gain from it.

The tale of Macmillan publishing is one of quite astonishing success. Founded in 1843 by two brothers, this privately held company has thrived ever since on the basis of their core values: astute business management and a commitment to high standards and values in literature and academic publishing. Over the years, Macmillan has grown to be one of the world's largest and most prestigious publishers. However the company is not a manufacturer, but a traditional publisher focused on commissioning and distributing content.

Macmillan's best known titles, Nature, Groves Dictionary of Music and Palgrave's Dictionary of Political Economy, are well established multi-channel content brands within a broad range of Macmillan publishing interests. Data processing, production and manufacturing are largely subcontracted to outside service providers. This is especially true in the UK where there is no significant in-house typesetting or data processing.

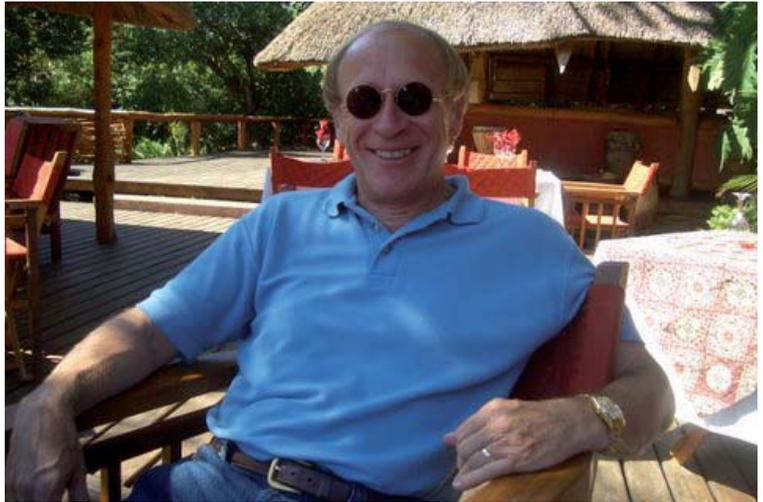
Macmillan's international expansion began in the late 1960s when Harold Macmillan, he of the 'winds of change' fame, became chairman. (In case you are baffled, Macmillan used the phrase in a speech to the South African parliament in 1960: he acknowledged the importance of self-determination and the speech marked the beginning of the end for white dominance in the region.) Anyway, in the late sixties Macmillan's domestic base of academic, literary and educational publishing was well established, with growing reference, textbook and scientific journal activities.

The tale of Macmillan publishing is one of quite astonishing success. Founded in 1843 by two brothers, this privately held company has thrived ever since on the basis of their core values: astute business management and a commitment to high standards and values in literature and academic publishing.

Operations were set up in Japan, Mexico, Africa and Asia and today these businesses, along with Macmillan's domestic interests, are internationally recognised for high standards, from academic and educational publishing, through to fiction and all points in between. The company now has operations in over 70 countries across the globe and is owned by Verlagsgruppe Georg von Holtzbrinck. This family owned media group shares the same core values as Macmillan and is active in newspapers, books and magazines worldwide.

Macmillan's focus is still on long term planning and investment, and innovation, with two basic areas of business: publishing, with Nature, Palgrave Macmillan, Pan Macmillan and Macmillan Education; and service provision, with typesetting and software in India, print buying in the UK and distribution in Asia.

The services operations provide extensive services to customers and Macmillan's own divisions. For example, the typesetting, data capture and website design operation in India, unique amongst Macmillan operations in its production services focus, serves both clients such as Reed Elsevier and Yellow Pages, and any part of Macmillan requiring its service.



John Peacock, production director at Macmillan

In addition to the business in India there are four more operational units: the Nature Publishing Group, Palgrave Macmillan, Pan Macmillan and Macmillan Education. All of them work closely together, but the relationship between the UK and India is especially close, following one hundred years of Macmillan's presence in India. In April 2005 Macmillan opened an extensive facility in Bangalore, the Book Typesetting Division which has over 500 staff. According to Richard Charkin, Chairman of Macmillan India Ltd, the facility is to "become a global centre of excellence for Macmillan".

With such a complex web of business interests and activities in so many countries, pursuing new business and developing new products is no mean feat. However, Macmillan is set up to function transparently across borders, including management of production operations which are mostly outsourced. According to Production Director John Peacock: "In Nature, in Macmillan Oxford and in Pan Macmillan we do have editors and designers who work on PCs and Macs editing, laying out and designing pages which we send out to suppliers for either page make-up or finalisation to PDF. But the core of our business is commissioning others who provide these services to us."

There is extensive cooperation across systems and divisions as Peacock explains: "We've been buying typesetting and print internationally for

▼ many years from our UK offices and studios, and so we've a long history of cross-border production."

Macmillan's Asian operations in general are key partners for the UK, providing local distribution and fulfillment services, as well as production support operations. Hong Kong is the base for Macmillan Education and acts as the regional liaison office for Macmillan East Asia. Recently Macmillan set up shop in Beijing to serve the needs of the Chinese educational and academic markets.

Although most of Macmillan's activities in Asia support its education and textbook business, the network of businesses also provides support for outsourced production elsewhere in the world. As Peacock explains: "The main areas [of cooperation] are UK to India and vice versa, copy editing, repro and typesetting, starting from author manuscripts and roughs we supply in Word or Tec; UK to Asia, mainly print-ready PDFs, which we send to Hong Kong, Thailand, Malaysia and Singapore."

There is also a healthy shared production traffic elsewhere, once again mostly for educational products with files going from the UK to South America and vice versa (mainly Mexico, mainly Indesign and PDF files used in collaboration); and UK to US (mainly print PDF files for magazine and journal printing). Peacock adds: "There's also an increasing cross-border traffic in digital proofs, either sent as PDFs for electronic markup or as scans of hardcopy."

Macmillan allows its numerous international divisions to function with considerable autonomy and with levels of management complexity suited to the local market. Production decisions are also made at local level as they can substantially influence time to market for different products including books, magazines and educational material.

Macmillan recognises that JDF can make a substantial difference to time to market as it facilitates data sharing and helps reduce redundant data processing. Peacock explains: "Most of our book schedules are not time-critical to the hour or even day. On the other hand, most of our magazine publications, of which Nature is the best example, most certainly are. All our main magazines have specific printing slots which we just have to meet. I would see JDF being useful mainly in the magazines area." But when it comes to proactively implementing JDF Peacock says: "Nature have looked at JDF with one of their suppliers but the conclusion was that there were no gains over current practice."

JDF is also relevant for managing costs as well as speed to market, and for Macmillan Peacock feels that: "On the books side, I would look to JDF less for speed than for possible reductions in processing and transaction costs." As it is a private company Macmillan does not publish financial data however estimated annual net income (as opposed to revenues) is ▶



John Peacock in action.

around E350,000 so even if JDF only yields a very small improvement in local budgets, the effect on profitability could be very substantial.

But does this really matter? Macmillan is the sort of company that puts its customers and employees first. If JDF can improve cost control it is more likely to have an economic benefit for the company's content consumers, possibly in the context of digital printing and sales.

The problem is that trying to implement JDF throughout Macmillan's 50 divisions worldwide requires either immense resources or immense patience to encourage it to happen organically over time. However once awareness of JDF grows alongside awareness of how it can help the business, there could be some momentum for it. JDF could, for example, be used to feed production statistics and local MIS back into the business. It could provide data for managing business intelligence, to provide a support to how local companies manage their operations.

One of the key business areas Macmillan is exploring is digital printing. Peacock describes this as highly relevant. "We have around 4000 titles held in POD form, and over £1million of sales coming from them. We also use digital printing extensively for short-run reprinting - most of our printings under 350 are produced digitally." JDF has a part to play in this but Peacocks says: "So far JDF as a metadata solution has not been pushed in our direction by our suppliers, and until that happens we would have no reason to apply JDF data since there would be no purpose in doing so. The general concepts are clear and accepted, however, and we already send metadata in prescribed formats to most of our printers."

If JDF is to be implemented throughout content supply chains it seems that printers need to be working much more energetically with their clients to encourage the use of JDF. Macmillan is a very large company however it is made up of a great many small organisations working with a mass of different suppliers and service providers, all of which need to be talking the talk and walking the walk. At the moment there is no plan to implement JDF throughout these divisions worldwide. Unfortunately for JDF that seems to be true for many publishing houses, large or small.

– Laurel Brunner



Macmillan is a very large company however it is made up of a great many small organisations working with a mass of different suppliers and service providers, all of which need to be talking the talk and walking the walk.

Keeping it Under Control

Without doubt colour management at the press is getting more sophisticated. Working with standards such as JDF and database driven press control systems, printers can deliver a better and more competitively priced product, particularly for short run colour work. This is because press manufacturers are constantly updating their software to make conventional print even more competitive, with improved productivity throughout the data supply chain from prepress to press. Quality assured process control with tools for calibration, profiling and colour accurate proofing are getting closer and closer to the press.

Standardising printing conditions is a key part of efficient colour management and print quality. It's possible to work with custom tailored ICC-profiles for a certain combination of press and paper, but for most jobs accepted industry standard profiles will give an accurate end result as long as the process is well managed.

A standardised printing condition is just the start. Process control becomes even more urgent as designers start to take full advantage of what is possible with the latest layout and imaging tools. Fine tuning of ICC profiles normally happens in the prepress department, but the more advanced press control systems have started to take over this role, to make last minute compliance to a given print standard, such as ISO 12647/2-2004, SWOP or GRACol happen on press instead. Colour management at the press is one of the final pieces in the colour management puzzle. Several developers are leading the way using database technology and JDF to manage data interactions.

Heidelberg Prinect Image Control

Heidelberg has the unique advantage amongst press manufacturers that it develops and manufactures both prepress equipment and printing systems. Prepress and press technologies are tightly integrated, with colour management tools for calibrating and characterising monitors, digital cameras, scanners, proofers and presses. Standards are the basis for print predictability and quality control, giving print buyers more flexibility when it comes to choosing a printer. The concept of tight integration based on standards is fundamental to Heidelberg's philosophy and the Prinect Colour Solutions toolset of colour management technologies.

The Prinect Image Control system is a spectrophotometric measurement system for controlling colour on press. It also gathers quality data and is the most important component of closed loop colour management from plates to proof to press. Based on what manufacturers have told us, it seems that Heidelberg along with MAN Roland is leading the market with this type of technology, although both companies approach the

Working with standards such as JDF and database driven press control systems, printers can deliver a better and more competitively priced product, particularly for short run colour work.

▼ problem from very different perspectives. There is nothing comparable on the market to Heidelberg's Prinect Image Control.

One of Heidelberg's most recent additions to Prinect is Mini Spot technology, which is used to check colour values. The colour values of randomly selected spots, small areas or colour bars, on sheet or proof are measured as part of Prinect's control for dot gain and inking.

Prinect Profile Toolbox, for calculating ICC profiles uses Mini Spots measurements for checking the quality of the printed sheet. With it, Heidelberg combines the principals of digital colour management with adaptive process control that responds according to how the press performs.

This can yield considerable savings in time and effort, because all print profiles are being constantly updated. Since it was introduced Heidelberg has installed its Mini Spot technology as part of Prinect Colour version 4.0 at 140 sites worldwide. Mediahaus Biering in München, Germany has been using Prinect since 1994 and Mini Spots since its introduction and staff working with it, both in prepress and on press, are competent within two months.

According to production manager Vitali Rosenfeld the Mini Spot technology has provided: "Fast quality control of all single process steps, for example PSO (Process Standard Offset ISO 12647-2)." It has also helped with "generation and editing of ICC profiles, simplified operation [because of the] accustomed GUI, [and] printing office and prepress have moved together more closely." Adding advanced colour management to the press clearly makes sense, but Heidelberg is not alone in its efforts.

KBA (Koenig & Bauer)'s Logotronic Professional controls all KBA presses and links to subsidiary systems such as MIS using JDF. Production data including press and individual colour conversion curve data are taken into account for setting ink keys. Jobs are presented on the press console along with all presetting data which can be adjusted if necessary. After the run operational data is returned to the MIS where it can be used in the future as the basis for costings and job estimating. Logotronic Professional can preset virtually all electronically controlled parameters on the press, including blower air parameters, powder spray amount and required print pressure.

As far as we are aware, Logotronic is the only press control system capable of adapting to how a press operator uses the various control parameters. When the same changes are consistently made, the system automatically adjusts the general settings for that operator. We tried many times to get more details about this from KBA, but the company did not respond to our persistent requests for information.

KBA also has a special module for quality control. Qualitronic II is a high resolution video camera mounted on the press (two on a perfecting ►



This Prinect Image Control option from Heidelberg is essentially a spectrophotometer for controlling colour on press.

press) for measuring print quality, register and paper handling. The data collected is fed back into Logotronic and is the basis for further adjustments during the print run if colour quality starts to drift. We also tried relentlessly to get some response from KBA about the number of users of Logotronic but they never replied. That tells us enough!

Komori KHS (High Performance System)

Komori's High Performance System press control system connects to external systems such as prepress and MIS via proprietary interfaces and JDF. Komori's Digital Open Architecture Network technology uses JDF to provide an infrastructure for colour management throughout the workflow. JDF allows Komori to integrate its own technologies with those from other manufacturers. The number of users of this architecture is as far as we understand, small.

MAN Roland along with Heidelberg is a market leader for this technology. MAN Roland's Printnet is a customised workflow environment which uses different task modules to link the entire data chain. As with the Heidelberg and Komori technologies Printnet uses JDF to manage data transports across subsidiary systems such as prepress, press, postpress and MIS. MAN Roland was one of the founding members of CIP4 and was deeply committed to JDF's predecessor, CIP3's Print Production Format (PPF). There are over 2000 users of MAN Roland's Pecom technology which manages links between prepress and press using PPF. There are now more than 1600 networked installations worldwide controlling over 3500 presses. Of these, over 40 work daily with JDF.

KOMORI PRESS STATION		11-07 10:01	File	Machine Set	AMR	Printing	Monitor		
Unit	1	2	3	4	5	6	7	8	
Color Sequence	BLK	CYN	MGT	YLW	M1	M2	M3	M4	
Pre.1 / Pre.2	Pre.1	Pre.1	Pre.1	Pre.1	Pre.1	Pre.1	Pre.1	Pre.1	
Color	BLK	CYN	MGT	YLW	M1	M2	M3	M4	
Ink Set	6	9	8	8	15	14	12	20	
Ink Ratio	180	180	150	140	140	140	140	140	
Opening Shift	0	0	0	0	0	0	0	0	
Ink Duct Feed Frequency									
Pre.1 [Step1]	20	17	18	20	21	18	20	22	
Pre.1 [Step2]	6	6	6	6	6	6	6	6	
Pre.2 [Step2]	7	7	6	6	7	7	6	6	
Load	L	M	H					MEMO	SET
AMR	Inking Roller Cleaner	Blanket Cleaner	Imp.Cyl. Cleaner	Paper Size	APC	Pre- Inking	Ink Key Opening		Main Menu

Komori's High performance press control system enables connections from the press control to external systems such as MIS.

Most of these customers run their JDF integrations for sheetfed presses, and we were able to speak to one customer in Scotland who neatly summed up the reality of working with JDF in day to day production. 21 Colour in Glasgow has seen quicker turnarounds and makeready times dramatically cut. John McManus, production director, said that: "We have been working with the JDF side of things for about six months and we still are finding our way. In the company we have MAN Roland, Tharsten and Kodak Prinergy so it's getting everything to come together. Terminology is the biggest factor, that's the biggest problem. Working with JDF works well for simple sheet work, but we are finding problems with multiple sheet work." Colour management has also got simpler and JDF together with MAN Roland's Colour Pilot technology has made a

substantial improvement to production. McManus added: “Colour Pilot is fantastic and we’ve now got 15 minute makereadies compared to 30-45 minutes last year”.

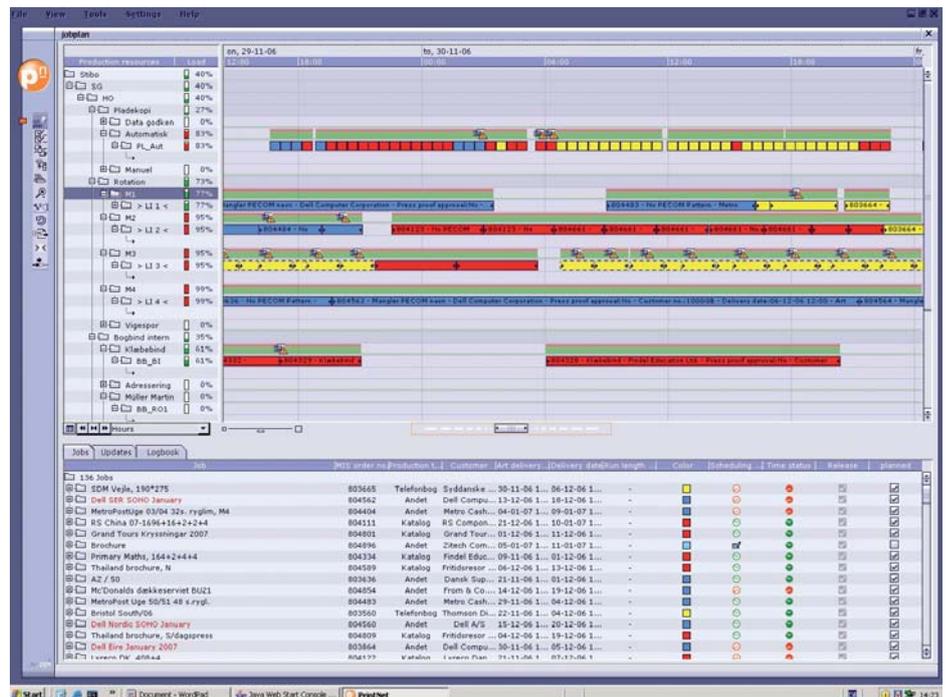
Mitsubishi’s IPC (Intelligent Press Control) Server is the heart of Mitsubishi’s press control system which includes colour management, plus a variety of additional modules, Mitsubishi links its press control system to prepress and MIS through the Mitsubishi MAX Net (Mitsubishi Accomplished Extensible Network). IPC Server technology now supports CIP4 JDF/JMF send and receive functions, providing a hub for both MIS and MAX Net. It complies with the CIP4 Interoperability Conformance Specification (ICS) defining how press control systems should converse with MIS. The MIS is constantly advised of press status for efficient cost control and press operators can readily access job management functions for all print jobs, as well as production control functions. Around 50 of these servers have been shipped to customers worldwide.

All of these manufacturers are providing modules that handle a diversity of tasks, from setting up and managing job tickets, to logistics. Not all of them make a direct contribution to colour management but many of them do. Some companies, such as MAN Roland, are also working on intelligent materials processing and even transport and delivery management. Where all this leaves traditional prepress is a little blurred, but it is unlikely that full responsibility for colour management is going to be handed entirely to press operators. There are still many colour management issues to resolve and much of this work is better done early in the workflow. However if colour management can make a press more productive and produce optimal quality work, then so much the better. The fact that press manufacturers are taking such pains to embrace colour management and JDF bodes well for the future for print buyers.

Everyone wants faster production throughput and improved quality control, with less waste and full cost accountability job to job. But there is only so far that a press control system can go, especially in complex, collaborative workflows where many people contribute to a job’s development and preparation for output. Standards help, but there is unfortunately no such thing as a standard print job or even a standard printing condition with universal relevance. As long as people come up with creative ways of using print and as long as printers keep printing those jobs, colour management will be problematic and required throughout the workflow.



MAN Roland’s ColorPilot, shown here on a Roland 500, has helped to dramatically cut makeready times.



This screenshot shows the planning board from MAN Roland’s Printnet.



The database and JDF are fundamental to the process; together they help store and manage all critical process data including job metadata, ink setting, machine settings, with Pantone spot colour library data, plus data on different paper stocks, ink data and of course, colour management. Well deployed colour management and JDF help make print more economically viable and printers more productive. There is every reason to embrace them because as John McManus of 21 Colour says: “We as a company are turning out 30% more work.” And that’s what it’s all about.

– **Laurel Brunner**



A to X of PDF

Now that Adobe has set up the retirement plan for Postscript, it's clear that the already popular file format PDF will be the absolute number one file format for electronic file delivery in print publishing. Most printers already include a line in their estimates which states something along the lines: "This price assumes delivery of printable electronic files, preferably PDFs". But what exactly is a 'printable' PDF, really?

Originally the PDF format was developed by Adobe for exactly that reason – documents created in different software and on different operating systems should all be viewable and printable by the receiver. But in the beginning this was designed very much for 'office' use, and today a PDF can mean anything from a low resolution proofing PDF full of sticky notes and annotations, to a preflighted and validated high resolution PDF/X-3 file. The latter is printable, the former is most likely not, at least not with any quality.

The X-files

As PDF usage has become more common in the print industry, so there has been a need to define what a printable PDF file is. Industry organisations like DDAP (which has recently renamed itself the rather impenetrable Digital Directions in Applications for Production) and the NAA (Newspaper Association of America) recognised this problem early on. These organisations prompted CGATS (Committee for Graphic Arts Technical Standards) to develop in the late nineties the first suggested standard, the PDF/X-1 format. The 'X' stands for exchange, but there's nothing other than pure Adobe PDF-technology included in the file format.

For a file to be recognised as a PDF/X-1, the specification is mainly about what it should not contain. A PDF/X-1 file should not contain attachments or annotations, or images in RGB or CIE Lab. Curiously enough the PDF/X-1 format as such doesn't state anything about what resolution is requested – this has to be specified in some other way – typically via a preflight profile (often called a PDF profile).

The PDF/X-1 format quickly gained a *de facto* standard status, and in 2001 it was accepted as an ISO standard, number 15930-1. By that time it was revised, and was renamed PDF/X-1a. Two years later it was revised again, so to be exact you should include the year of revision when you state what type of PDF/X-file you mean, for example, PDF/X-1a (2003) version.

But this is just the beginning of the X-series. While PDF/X-1 gained momentum, with its fairly straightforward processing, containing only ▶

Now that Adobe has set up the retirement plan for Postscript, it's clear that the already popular file format PDF will be the absolute number one file format for electronic file delivery in print publishing.

▼ separated CMYK-images and spot colours, other sections of the graphic arts community wanted to work with RGB and CIE Lab images, and with OPI and DCS files. So, two other versions of PDF/X were prepared, the PDF/X-2 format accepting multi-channel DCS-files (Desktop Color Separations, originally a file format developed by Quark in 1989), and the PDF/X-3 format, accepting RGB and CIE Lab images (but not OPI or DCS files).

Of these two, the first to come into use was the PDF/X-3 format, and it became an ISO standard in 2003, number 15930-2. The PDF/X-3 format allows late binding in the document processing workflow, meaning you can hand over the colour separation process to the RIP, for it to be done at the last moment. To make this possible the images inside a PDF/X-3 file need to have ICC-profiles embedded, and the assumed output profiles need to be included in the PDF as well. Again, the requested image resolution is not stated as such in the PDF/X-3 specification, but can be specified using an appropriate preflight profile.

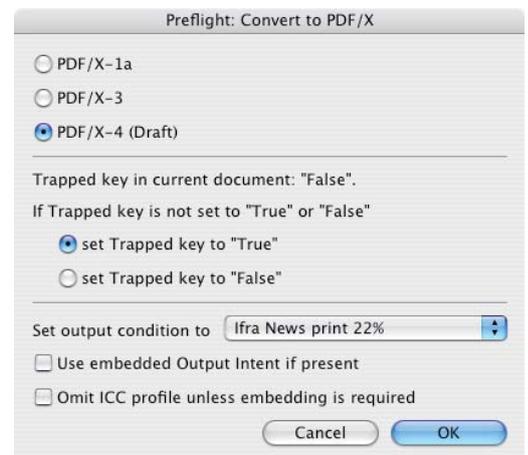
The PDF/X-2 format did achieve ISO status together with PDF/X-3 in 2003, but doesn't seem to have gained much momentum or use in the industry yet. This is a little strange, since it should be ideal for packaging production, where it's common to print with many more colours than just CMYK, and so the multicolour capacity of the DCS format should fit in well. Perhaps the file preparation of multi-colour print jobs is so advanced and complicated, that packaging printers prefer to be given native files from Illustrator, InDesign and QuarkXPress, instead of educating clients to learn about and use PDF/X-2.

Printable PDFs – The Ghent PDF Workgroup

When it comes to defining how to correctly preflight documents and create 100% printable PDF/X-files, there is one authority above any other to ask for directions. The GWG, or Ghent PDF Workgroup, has been frantically active since its start in 2002. All the vendors of preflight software and a lot of heavy duty users are members of the GWG and publish a series of preflight profiles for specific application areas.

Whatever preflight application you use, and type of workflow you have, you can be reasonably certain of finding a suitable and well tested preflight profile to download from the GWG website www.gwg.org. For many programs the preflight settings are often called PDF profiles, and specify among other things what resolution is needed for a certain type of print production.

Of late much of the work in the GWG has been focused on colour management in PDF files, so the GWG and the ICC are two important organisations to turn to as regards quality assurance. At the moment Quark is rolling out the new XPress 7.0, and Adobe has just released Acrobat 8.0,



Acrobat 8.0 includes an option to save files as PDF/X-4 files.

▼ so it might be a good idea to be on the lookout for suggested and approved GWG PDF profiles for those applications in the near future.

X marks the spot

Perhaps you find it confusing that there are different versions of PDF/X? Unfortunately it will get worse, in that today's PDF/X-series only supports PDF version 1.3 fully, although the 2003 revision supports PDF 1.4 to some extent (but unfortunately not layers and transparency). To put it simply, PDF version 1.3 supports approximately the same complexity in documents as Postscript 3, so advanced layer functions and transparency settings which are possible in PDF 1.4, through to the recently released 1.7, are not supported directly in a PostScript 3 RIP.

Instead, these files need to be flattened for correct processing. Native support for PDF 1.6 and 1.7 is only possible in RIPs using the new Adobe PDF Print Engine, or similar technology using direct PDF Library processing (as for example Artwork Systems, Esko-Graphics and Global Graphics do). So we won't see native support for PDF version 1.6 and 1.7 in a broad range of devices until later in 2007, and even then, we will need some sort of specification as to what makes these PDF files truly printable.

To this end, a new series of X-files is in preparation, starting with PDF/X-4. The new Acrobat 8.0 actually has a preflight setting for PDF/X-4, based on the draft version, for three types of printing conditions. But for now it's probably wise to stick to PDF/X-1 to 3, and wait for the approved PDF/X-4 version later in 2007.

As well as the X-series there is a standardised and ISO-approved PDF specification for archiving purposes, the PDF/A-series. It has quite a lot in common with the X-series, but is not intended to be a high end print format, being aimed instead at long term document archiving purposes. It is ISO number 19005 and was approved in 2005.

The main benefit of the PDF/A standard is that it guarantees and facilitates search functions, an improvement over a TIFF-based document format. The PDF/A format also supports information about the document structure as well as rich metadata. As with any PDF-file it's possible to compress the data quite substantially without any visual loss.

So even if the different PDF-flavours tend to look like a jungle at a quick glance, there is definitely a logic to it. The alternative, ignoring the X-files, is worse than learning more about them. Ignoring the PDF/X-standard means you will lose much of the ability to control quality, instead allowing more or less any type of PDF-file to pass through your workflow, printable or not.

– Paul Lindström



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