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Spindrift

...Scavenging The Graphic Arts Industry Since April 2003

News Focus • Opinion
Reviews • Techno-Babble
Attitude

Volume 5, Number 6
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research and development • **noun** (in industry) work directed towards innovation in and improvement of products and processes.

– From the Compact Oxford English Dictionary

Dear Reader,

We recently had the honour to visit Fujifilm's advanced research and development facility in Japan. It's 56,000 m² of high tech heaven and houses 800 top-flight geeks, wireheads and boffins whose sole responsibility it is to imagine, ponder and pursue ideas. They come from a range of disciplines including the obvious such as chemistry, physics and mathematics, and the not so obvious such as social sciences.

Fujifilm has invested over €100 million in this centre which has been open for 18 months, as part of its strategy to "use leading edge, proprietary technologies to provide top quality products and services". That Fujifilm is willing to invest this kind of money into technologies which may end up in CTP or digital printing systems is extraordinary, particularly since print is supposed to be a dying medium.

So why is it that Fujifilm, plus its competitors such as Canon, Kodak, Océ and HP, are willing to risk such sums into an industry that some people have claimed is on its last legs? It's because they recognise that the industry is about more than static data printed on conventional paper. High speed inkjet and xerography, coating technologies and variable data management and processing do not replace one medium with another. Rather, they change the mode of production to facilitate new applications.

Media channels are undergoing an equivalent evolution: web-to-print, electronic newspapers, blogged novels. What a shame, that so few publishers have the same vision when it comes to investing into new ideas, content and channel development.

Enjoy!

Laurel, Nesson, Paul and Todd

In This Issue

Advanced proofing - spot colours

At last, the epic journey that has been the Digital Dots spot colour proofing test is complete, with some interesting results. Proofing of spot colours can be challenging, so we put together our own tests to better understand the issues, and to establish what level of accuracy you should be able to achieve. And, as Paul Lindström writes, the vendors who took part in our tests came through with flying colours, so to speak.

see page 9

A Quark's tale

Quark is one of those companies that prove that competition is healthy, at least as far as the customer is concerned. Under sustained assault from Adobe's Creative Suite, Quark has changed almost beyond recognition. The old arrogant Quark that we all loved to hate has given way to a new caring, sharing Quark, as Laurel Brunner finds out.

see page 19

Adobe opens up CS3 to DAM systems

Adobe's decision to offer an SDK for its Version Cue technology has opened up a flood of possibilities for tighter integration with digital asset management systems. Paul Lindström asks a number of developers how they envisage using this technology.

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News Focus

Pantone, now part of X-Rite, has launched a new spot colour series called Goe. Despite using fewer base colours in the mixture - 10 base colours plus an ink called Clear, which makes the colour lighter than the existing Pantone matching system - it actually produces a larger number of individual colours; 2058 to be precise. The Pantone Matching systems use 14 plus white.

Pantone will provide digital colour definitions for the Goe spot colours, including for CIE Lab, CMYK in relation to specified printing conditions, and RGB. Initially it was a little unclear what RGB colour space that was referred to, but Pantone has since clarified that the user can get both sRGB and Adobe RGB reference values.

Agfa Graphics has released a new security system for packaging, labels and other printed materials. Secuseal is a set of plug-ins for Adobe Illustrator and works with all standard design workflows so designers can add security elements to any printed design. Its security modules can create complex backgrounds and convert images into complicated linework patterns and there are a couple of other modules besides. The security level of the file can be set by the designer and the plug-ins are password protected.

Tagline is a system for pre-personalisation of RFID products such as smart labels and smart tickets. Its developers, **Atlantic Zeiser**, suppliers of personalisation and encoding systems, have worked out how to combine RFID chip quality control with personalisation together with a system that encodes and runs quality control on RFID tags and prints or marks the label using inkjet technology. Atlantic Zeiser expects this technology to be relevant for the pharmaceutical and food industries, public transport, and baggage tracking at airports.

GMG has launched version 4.5 of GMG ColorProof, GMG ColorServer, and GMG InkOptimizer. They all have new profile and driver updates, and improved image sharpening. All three work with a wider range of inkjet printing systems, have easier hotfolder use and multi-core processor support, running under Windows Vista. GMG ColorProof has some impressive new features such as saving spot colours in calibrated sets, for improved portability across calibrated devices within the same family. There are too many features to list here, so see next month's Expandocs for details.

Compose Systems, developers of prepress workflow and colour proofing solutions, is introducing a LAN-based soft proofing technology. Visual Proof lets users softproof RIP'ed one-bit TIFF, Harlequin PGB and Len File Formats, right down to the dot angle and shape and is based on Compose's Star Proof implementation of the Founder RIP technology.

Kodak's Graphic Communications Group (GCG) has added a feature to its Insite workflow technology to help drive the acceptance of soft proofs for contract proofing. The addition of eXtensible Metadata Platform (XMP) encrypted fields within a file makes possible electronic sign off of the on-screen proof.

Alwan Color Expertise and **Gradual Software** are to partner to integrate Alwan's preflighting, standardisation and CMYK Optimizer colour technology into Gradual's Switch product line. The combination is expected to provide optimised colour management and process automation.

EFI and **Epson** have jointly launched a new proofing and large format production system. It combines the latest

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▼ version of EFI's Colorproof XF controller with the new Epson Stylus Pro 4880, 7880, 9880, and 11880 printers. The mix offers accuracy and consistency, plus a dramatically extended colour gamut, taking advantage of Epson's newly developed UltraChrome K3 ink with Vivid Magenta technology.

EFI has introduced its next-generation Fiery platform which features a visual workflow tool to help operators optimise productivity with a single view of job progress and built in 'how-to' guides to address a wide range of operator expertise.

X-Rite has announced vipPAQ version 2.0, an upgraded version of its inline multi-channel densitometric colour measuring system for flexography and gravure printing. VipPAQ version 2.0 consists of up to four 9-channel densitometers, the associated optics, a controller, and system software. It is the only such system that can be installed on press to control the density of any spot color, using the various measurement channels distributed over the complete visible spectrum.

FFEI and **Xaar** have signed a partnership agreement for the supply of the Xaar 1001 printhead. This piezoelectric printhead will be used in the new Caslon industrial inkjet device, a four colour process UV inkjet technology jointly developed by FFEI and Nilpeter. Caslon uses the Xaar 1001 in an FFEI head configuration with FFEI software and a unique UV pre-dry print solution. Caslon has promised to set new quality, flexibility and productivity standards for single pass printing for the labels and narrow web packaging markets. The first commercially available product will be in 330mm (13ins) and 420mm (16ins) web widths, with 508mm (20ins) and 559mm (22ins) available later.

A new Online Creative Portal (OCP) is now available to digital agencies and online publishers. **Vio Worldwide's** OCP allows publishers to post their Web advertising specifications in a global database. Ad agencies can use this information for creative planning, testing and file submission. The service aims to reduce the cost of planning and delivering Internet advertising campaigns, with Yahoo among the publishers testing the service. OCP is based on a database of publishers' ad specifications with details such as submission deadlines, minimum file size, maximum ad expansion, and number of graphic rotations. The technology also includes collaboration tools to allow agencies to communicate with publishers to let them know when a campaign is ready to run.

FFEI is to announce a new strategic product development partnership at IFRA, and the launch of a new range of newspaper CTP devices. It will include manual, semi-automatic and fully automatic devices, with appropriate production speeds for local, regional and national newspapers. The top of the range device can produce up to 225 Berliner-sized plates per hour.

Meadows Publishing Solutions has introduced DesignMerge Pro for Adobe InDesign and QuarkXPress 7.0 Universal Binary. DesignMerge is, according to Meadows, the only cross-platform variable data plug-in module that supports both Adobe InDesign and QuarkXPress. The software works directly with these applications to provide sophisticated variable data printing and data publishing features. All of InDesign or QuarkXPress's features are available with DesignMerge which also supports the most widely used VDP output formats including Optimised PostScript, PPML, EPS, PDF, VIPP, Barco/Xeikon Book Ticket, and QuarkXPress documents.

Xerox has introduced several new software modules for its Freeflow workflow suite. The FreeFlow Digital Workflow Collection provides a central control point for digital printers, automating printing and administrative operations and integrating digital printing methods into traditional business, management and production processes. The new tools remove steps from the printing process to expedite production and output.

Xerox has also expanded its black-and-white digital printing portfolio with four new devices, including what it claims are the fastest light production printers in the industry. The Xerox 4112/4127 Copier/Printer and Xerox 4112/4127 Enterprise Printing System are entry-level products based on the 4110 platform. They image 2400 x 2400 dpi duplex at 110 or 125 pages per minute and scanning at 100 images per minute simplex or duplex.

There are also improvements to the iGen3 digital colour presses, the Automated Color Quality suite, Xerox FreeFlow Print Server and Xerox CX Print Server, plus some maintenance improvements. Last year over 30 billion colour pages were printed on Xerox machines!

Kodak's fifth unit on its Nexpress can now be used to add texture to the surface of a print inline on the press. The texture is achieved with special Nexpress Clear Dry ink, so that print and photo services providers can differentiate the appearance of their output thereby increasing the

perceived value of customers' photographic prints. Texture can be added to all or part of a print, and multiple textures can be selectively applied.

Océ has introduced two new colour printers, the Océ ColorStream 10000 continuous feed engine and the CS550. The 10000 prints 172 colour pages per minute and is rated for a duty cycle of over five million pages per month. According to Océ this makes it "the world's fastest toner-based full colour printer for graphic arts".

The Océ Color System CS550 is a new 55 page-per-minute sheet fed printing system for commercial and in-house printing. It includes inline finishing, but Océ hasn't said much more about it.

Press-sense has introduced version 4.0 of iWay, its business flow automation software. The new version is much easier and more flexible to use and has a number of enhancements to simplify deployment. There are also asset management capabilities, improvements to the tax and shipping functions and a new budget and costings module.

Xerox is to acquire Advectis, one of the US mortgage industry's most popular technologies for electronic documents. Xerox hopes to blend its expertise in document production automation with Advectis' BlitzDocs paperless solution for mortgages. The BlitzDocs technology helps users reduce costs associated with the lending process, deliver better service and decrease credit risk. Perhaps more US mortgage brokers should have used this software, given the recent turmoil on the world banking stage?

Meanwhile, Xerox has launched additional business development services for digital printers, along with a new financial modeling tool to help print providers increase productivity and achieve cost and efficiency savings. The services include help with developing a digital marketing plan, selling one-to-one marketing campaigns and web-to-print jobs, as well as training and managing a digital sales force. Xerox has put together a dedicated team of Xerox business development consultants and industry experts, to support the initiative. Additional services will be available in the future.

Yudu Media has launched Publishing Freedom, its free online self-publishing application. The technology is intended to allow small businesses to publish content on the

web. It converts printed documents into a suitable online format and aggregates internet content for sharing. Quite how Yudu Media earns a crust isn't immediately obvious.

The World Association of Newspapers (WAN) has launched a new weblog addressing the latest in global strategies and other developments in the newspaper industry.

The weblog, <http://www.sfnblog.org> is part of the WAN Shaping the Future of the Newspaper project, which purports to identify, analyse and publicise all important breakthroughs and opportunities for newspapers.



Acrobites

(Something to get your teeth into)

ACID

Atomicity Consistency Isolation Durability compliant databases meet these criteria in order to ensure secure and reliable data processing.

Atomicity treats each transaction as a single entity, so that if one part of it fails, all of it fails and only valid data is stored. This preserves the data against failures in ancillary technologies such as the operating system, database management system or hardware.

Consistency states that only valid data is written to the database and that if a transaction violates a database's consistency rules it is not allowed. This means that as long as two databases share consistency rules they can interoperate without problems.

Isolation refers to the way a database manages transactions, finishing one before it commences another, with all transactions occurring in isolation.

Durability requires that transactions are not lost, and is achieved with backups and transaction logs to make sure that data is restored if any software or hardware should fail.

LAMP

Linux, Apache, MySQL and PHP web server platforms are the foundation of the Web, and its most ubiquitous server platform. Apache servers are web servers based on open source code implementations of HTTP and developed by volunteers on a collaborative consensus basis to create rich open source applications. The MySQL database technology is probably the world's most widely used open source database software, designed for minimal downtime, maintenance, administration and support. PHP is a scripting language designed for web development that can be embedded into HTML and is very widely used for building websites.

Expandocs

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

FileMaker 9

Earlier this summer FileMaker released version 9 of the FileMaker Pro database. The FileMaker company was set up in 1998 after FileMaker's original parent, ClarisWorks, which was the software arm of Apple, was wound up. As such FileMaker is still the default database choice for many Mac users, although FileMaker now works just as well on the Windows platform.

FileMaker was an early adopter of XML and as a result plays nicely with other XML-aware applications, so that it's possible, for example, to import Adobe's XMP metadata into a FileMaker solution. There are various estimating programs, such as Time Harvest, and at least one MIS aimed at the print industry, Printuitive, written in FileMaker. Its relative low cost and ease of use makes it a good candidate for small print businesses who want to set up an asset management or job tracking solution.

In truth, there's nothing particularly revolutionary about this latest version. On the surface very little of the program seems to have changed that much, bar some of the interface elements. But underneath the hood there have been some improvements, principally in the way that FileMaker interacts with SQL databases. You can for example now insert a table from an SQL database directly into FileMaker Pro's Relationship Graph, and then drag and drop links between an SQL and FileMaker database. There's a new supplemental field, which is a calculation or summary field that can be added to ODBC tables in order to carry out calculations on data that comes from the ODBC file from within FileMaker.

One particularly nice addition is the new Conditional formatting feature, which lets you format the text of a field, or even the fill colour of the field itself under certain conditions, which could be the result of a calculation. It's very quick and easy to set up and could be used in situations

▼ such as an accounting solution to highlight if an invoice hasn't been paid on time, or if an account has dipped (literally) into the red.

Other neat tricks include the ability to dynamically resize objects on a layout as the window is resized, and which also stays resized when the window is printed.

Elsewhere there have been some minor improvements. It is now easier to manage scripts by dividing them into groups and setting filters to help find scripts. Scripts can also be copied and pasted from one file to another. There are also some extra functions, such as the Self function, which finds the content of an object in which a calculation has been defined. It allows a calculation to reference an object without having to explicitly refer to that object, so that a single calculation can be applied to different objects.

We would have liked to have seen much better support for image handling so that users could develop asset management solutions for digital photographs. At the moment FileMaker will support some formats, but crucially not RAW camera files. We would also like to see better drawing tools to make it possible to develop more interesting interfaces for databases, without having to import backgrounds and illustrations from other programs.

The file format remains the same as that introduced in version 7 so it's easy to upgrade any existing FileMaker solutions. There's an Advanced version which has some useful features for those developing a database that is going to be used by others, such as the ability to change the standard menus for customised menus, and a useful tool for debugging scripts.

In addition there's a Server edition, and a mobile edition, for working with smart phones and PDAs, though this last is still at version 8.

Spindocs

(Where the spinner gets spun!)

The European Court has upheld the European Commission's decision in 2004 against Microsoft for antitrust practices. According to Brad Smith, Microsoft Corp. Senior Vice President and General Counsel:

"It's the type of decision that deserves the kind of time required to understand it thoroughly. It is nonetheless clear that the court has agreed with the Commission on a number of the Commission's points, and I do want to simply start by expressing our gratitude to this court for the lengthy consideration that it gave to these issues. These are obviously complicated and important topics, and we appreciate all of the objective and thorough work that went into the decision that was issued today."

He also said that:

"It's clearly very important to us as a company that we comply with our obligations under European law. We'll study this decision carefully, and if there are additional steps that we need to take in order to comply with it, we will take them. It will take us a little bit of time, at least over the next few hours, to read the decision carefully, but certainly that is one of our strongest convictions as we go forward."

"As we read today's decision more carefully, we're hopeful that some aspects of it may add some clarity that will help us all implement these remaining parts of the decision. And as I said, if we need to take additional steps in order to comply with today's decision, we will do so."

So that's alright then. Isn't it just wonderful that Microsoft wants to comply with the law? Perhaps it's even more wonderful that it doesn't, actually, have a choice! And best of all, this decision gives real teeth to the European Commission and sends a powerful message to companies around the world that Europeans value fairness and choice and simply won't tolerate anti-competitive practices.

Boomerangs

(Your feedback fed back)

We received this communication from one of our devoted subscribers. Andrew Wilson, Managing Director of Unity Publishing, is shown here on holiday in the Caribbean. Clearly Andrew is a man who knows how to have a really great time.



Hi L

Re the attached - some magazines feature people holding copies of the covers in interesting and varied places around the world. It is fun and helps promote the title. I thought you might like to start something similar. The caption might be - it takes more than mere Hurricanes to deter the committed Spindrift reader (*whilst in St Lucia this summer, Andrew was visited by Hurricane Dean*).

Just an idea, let me know what you think? I am sure you will find images flocking in from far more exotic places.

All the best
AW

And indeed, we think it's an excellent idea and would love to hear from any other readers who want to share their holiday highlights. But don't blame us if your kids leave you buried up to your neck in sand on the beach!

Driftwood

(Useful stuff washin' up on our shores)

While a lot of Web pages still are formatted in good old HTML, more and more Web programmers have switched to XHTML and CSS. As with XML, using XHTML means, among other things, that typographic formatting and actual content are separated in a clearer way. CSS, or Cascading Style Sheets, is the formatting language to define typographic properties as well as colours for the XML- and XHTML-encoded content (and can also be used with HTML to some extent).

The first version of CSS dates way back to the grand rise of the Internet, when Håkon Wium Lie and Bert Bros at W3C presented the first version, CSS 1, in 1996. The word cascade is used to describe how different priorities can be given to a series of style rules to a certain object, since more than one style rule can be applied. The ambition when developing CSS has been to make the syntax reasonably simple, by using plain text keywords in English for common style properties. Prior to CSS, all formatting was mixed up and contained together with the HTML text itself, much as in a data stream formatted as PostScript.

Style sheets as such aren't new to XML or XHTML – we have them in layout software as well as in word processors. They are a clever tool to easily change the typography of a document without the need to go in everywhere in the text and make repeated and identical changes. What is special to CSS is the cascading function, with the possibility to influence a document by multiple style sheets.

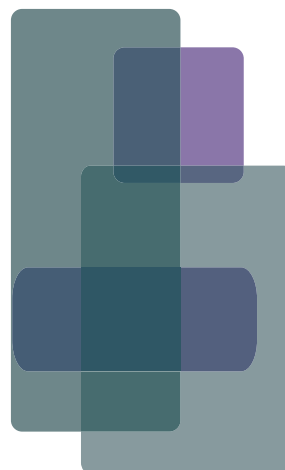
The work with CSS Level 2 began immediately after the launch of CSS 1, and CSS Level 2 was published in 1998. Level 2 is what is used as of today (supported to various

degrees in many popular browsers), but work is of course already well underway with CSS Level 3, which will have a much more modular approach.

The modular approach in CSS 3 meets the different needs in the many different types of browsers on the market. We not only have Web browsers for computers, but also handheld devices, like palmtops, notepads and of course mobile phones. As of today there are about 25 different modules in the CSS level three draft, and the status of completion varies a lot between those modules. Anyone interested in typography, and in particular font related issues, should follow in detail how work progresses in the two modules concerned with this – the Fonts module and the Web Fonts module.

And it's perhaps in regard to font management and readability that CSS 3 will make its most welcome contribution. But the road ahead towards actual implementation of CSS 3 is not without problems. CSS 2.1, presented as late as of July this year, is not yet fully implemented by any vendor of browsers, and when the dominating browser lags behind (Microsoft Internet Explorer), it's difficult for Web developers/programmers to try and 'push the envelope' on their own. Most likely what will happen is that some CSS 3 features, presented in ready to use CSS 3 modules, will slowly replace pure CSS 2 formatting, if such formatting can be called 'pure' at all.

Many web programmers have to take into account existing well known 'hacks' and particular behaviour of certain browsers anyhow, to try and predict and secure a desired appearance of their web pages. It's actually all about usability. And the work put in, particularly by the folks in the W3C, should be recognised more widely since it paves the way for even better usability for Web surfers in the future. The work with CSS level 3 is an important part of that increased usability and readability.



Advanced proofing – spot colours

While accurate proofing always offers challenges of one sort or other, conventional four-colour proofing in newsprint or commercial print has been mastered for some years now by a large range of proofing systems. But printing and proofing spot colours still offers a challenge for most printers and vendors of proofing systems. Digital Dots has conducted a test of proofing systems, where the test form contains the normal four process colours, plus six selected spot colours.

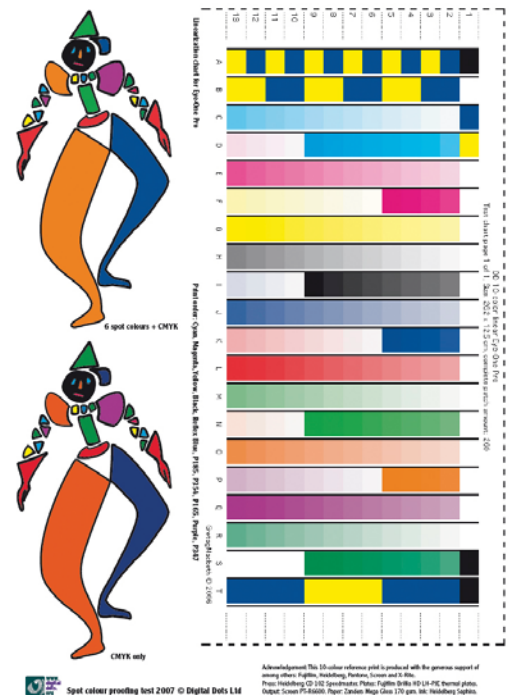
There are several challenging issues when printing and proofing spot colours. One obvious one is that most colour printers are only loaded with a set of CMYK inks, so it may not be possible to reproduce a certain spot colour exactly. Nor is it enough to choose a colour printer with an as-large-as-possible colour gamut as the colour printer needs a RIP that can render colours in an efficient and accurate way.

Also, the RIP needs to be used properly. In a recent proofing test arranged by IPA, the US association of graphic solutions providers, proofing systems vendors were able to produce proofs with an accuracy which averaged Delta E (also written as ΔE) 1.1. But a selection of users who produced the same four-colour proofs could only manage an average ΔE of 2.2. So, although many proofing systems can produce very accurate proofs for four-colour printing, they need to be set up properly by well-trained operators.

In recent years Digital Dots has conducted tests of proofing systems using the ECI Altona Test Suite, and we closely follow the IPA and ECI proofing tests. But the Altona test forms primarily test conventional four colour proofing using the CMYK process colours. Our proofing test with a new and dedicated spot colour test form is the first, as far as we know, to focus entirely on testing a system's capacity to correctly reproduce selected out-of-gamut spot colours (meaning out of gamut for conventional CMYK process colours).

Measuring spot colours

Most designers are comfortable choosing a certain spot colour using the colour library in the layout or design application, be it QuarkXPress, InDesign or Illustrator. Very few people double check that the CIELA*B* values for a particular colour actually match what can be measured using a spectrophotometer reading a colour sample, such as, for example, a printed Pantone colour guide. Anyone measuring samples in a colour guide will notice that the values given in, for example, Adobe InDesign for Pantone Reflex Blue, most likely differ substantially from what the spectrophotometer says when you measure your own colour sample. ▶



The Digital Dots spot colour test form consists of a series of full tone and gradient patches of both the CMYK process colours and six selected Pantone spot colours.

▼ This is because many of the spot colours in design software seem to be based on a series of measurements made using a spectrophotometer equipped with a UV-filter. But most spectrophotometers sold to designers and printers today are not equipped with a UV-filter, so measured values will differ substantially from colour libraries based on measurements with a UV-filter. Other reasons for a mismatch are of course that your colour sample is old, thumbbed, scratched or not printed at 100% according to target values for that specific spot colour.

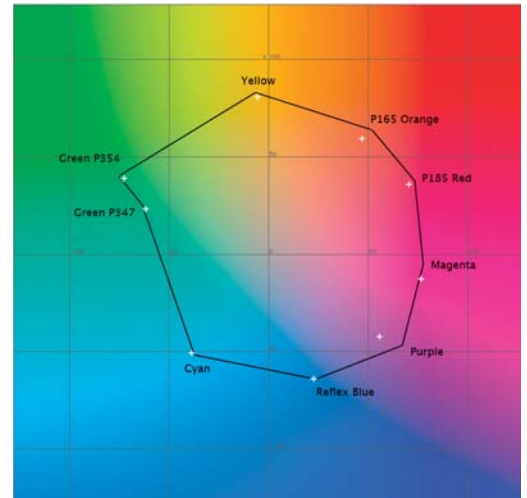
Measuring Challenges

Measuring with or without UV-filter mounted on the spectrophotometer is only one reason why it can be quite tricky to define spot colours as one single and definite set of colour values. Another factor is the substrate or paper used. Pantone, for example, uses three different paper types for its colour guides, glossy coated, matte coated and uncoated. The paper you actually print on may be very similar, but not exactly the same as was used for the colour samples you may have.

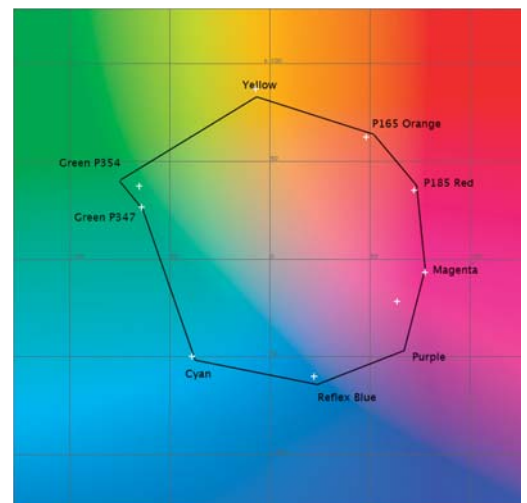
A third complication is to define what the target values should be for the press operator, when measuring at the press seconds after the paper sheet comes out of the press. At this point the inks can be considered as still being wet and the appearance of the colour will change during the drying process. The colour change is by its nature greatest in the early stage of the drying phase, usually during the first hour, but prints should not be considered fully dry and colour stable for the first 24 hours. So the dilemma for the press operator is that the colours wanted by the designer, and that can be measured on a colour sample, are very different from when measuring recently printed wet sheets.

We asked Pantone how they obtain a good colour match between batches of printed colour guides, and it turned out that they use colour and density data for wet inks stored within their scanning spectrophotometer as guides to achieve proper adjustment of press keys on colour-up. This is checked at the time by visual comparison with retained standards and previous printing runs. The press OK sheets are allowed to dry overnight and then measured again using a laboratory spectrophotometer. The resulting data is compared with standards to assure that the guides match from edition to edition and from run to run.

This leads us to the fourth challenge – ink formulas from different ink manufacturers. When asking the ink manufacturer what target values to use for a certain spot colour, you usually end up with slightly different answers depending on which ink manufacturer you ask. When we prepared this test we were faced with some five or six suggestions as to what the correct CIELA*B* value for a certain spot colour should be. One value we could read out from the design software, another from the control software for the spectrophotometer (the X-Rite EyeOne), a third from the press control software (in our case the Image Control software controlling a ten unit Heidelberg SpeedMaster CD 102 printing press), a fourth and a fifth value suggested by two different ink manufacturers, ►



*This illustrates part of the gamut of the CGS proof when using Oris Colortuner and a Canon IPF5000. The black border represents the colours of the reference print. The white crosses are the colour value measured in CIELA*B* for full tone samples of the CMY colours plus six selected spot colours. Ideally the white crosses should be exactly on the border line.*



*This illustrates part of the gamut of the Dupont proof when using Dupont Cromanet and a Blue2 proofer. The black border represents the colours of the reference print. The white crosses are the colour value measured in CIELA*B* for full tone samples of the CMY colours plus six selected spot colours. Ideally the white crosses should be exactly on the border line.*

and a sixth value kindly suggested by Pantone for wet ink based on their own measurements on site at their main printing plant in New Jersey, US.

We describe this dilemma since we are convinced that every printer and publisher who hopes to get the spot colours spot on, to get an absolute colour match will face the same problem. This is why it's a good idea to have fresh and updated colour samples and colour guides at hand. The designer and press operator/printer should also now and then check that the physical colour samples they use have a reasonable match, both visually and by measuring them with a spectrophotometer.

Multicolour ICC profiles

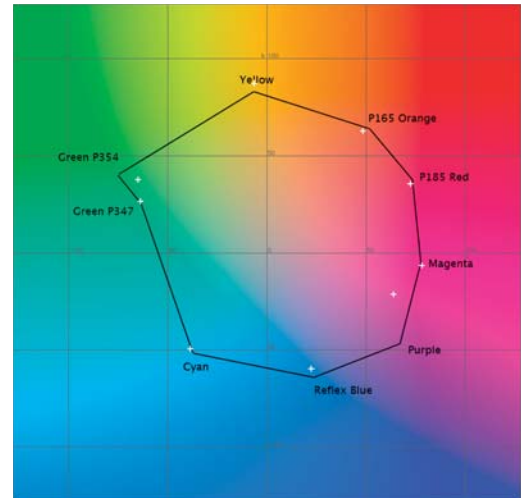
While you need pre-made colour libraries in the daily design work in order to select spot colours, one way of defining how a certain spot colour actually looks when printed on a certain substrate is to make a reference print, measure it, and save the colour data as an ICC profile. Most of the commonly used ICC profiles are for RGB devices (monitors, scanners and digital cameras), or CMYK devices (process colour printing).

But both the ICC standard and the Adobe PDF format also support multicolour profiles, called n-colour profiles (where n stands for any chosen number of colours). In practice it's unlikely that you will create an image using more than seven colours, CMY + RGB + black, but some of the software on the market for creating multicolour ICC profiles supports up to 15 colours in a multicolour profile.

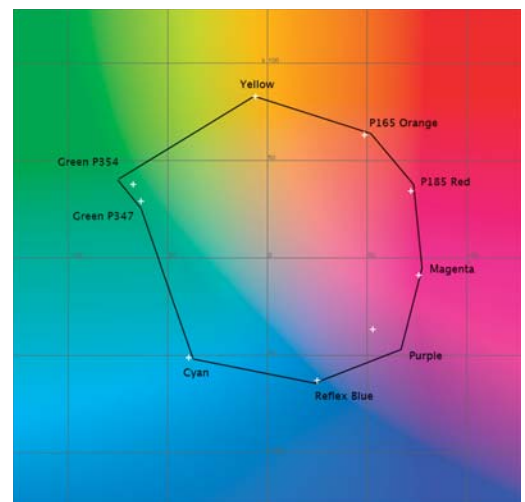
In our test we used the X-Rite ProfileMaker, to create a ten colour ICC profile, defining the four process colours CMYK plus a selection of six additional spot colours. While this was perfectly possible, it turned out that the Adobe Creative Suite software couldn't activate and use this profile fully. Neither could all of the proofing systems use this ten colour profile straight off, since some of them only support up to seven colour channels in the ICC profile.

This isn't such a surprise, since very few photographic images need to be printed in more than six or seven colours. Adobe doesn't support n-colour profiles without additional plug-ins from third parties such as X-Rite, and instead recommends using colour definitions in CIELA*B* and spot colour libraries. But it would help if Adobe provided better information on where their suggested CIELA*B* values for spot colours come from – if they are based on measurements with or without UV-filters, for instance.

For our test several of the proofing vendors did just that – skipped the provided ten colour ICC profile and instead built custom colour libraries for the spot colours using the measurement data we provided. But a more straightforward (and faster) way is to use the multicolour profile provided, and CGS, Perfectproof and Screen did this. Efi and GMG also



*This illustrates part of the gamut of the Efi proof when using Colorproof XF and an Epson Stylus Pro 9800 printer. The black border represents the colours of the reference print. The white crosses are the colour value measured in CIELA*B* for full tone samples of the CMY colours plus six selected spot colours. Ideally the white crosses should be exactly on the border line.*



*This illustrates part of the gamut of the Esko proof when using Flexproof and an Epson Stylus Pro 4800 printer. The black border represents the colours of the reference print. The white crosses are the colour value measured in CIELA*B* for full tone samples of the CMY colours plus six selected spot colours. Ideally the white crosses should be exactly on the border line.*

support the use of n-colour profiles, but still chosed to create a custom colour library in order to achieve even higher colour accuracy.

The tested systems

We invited as many vendors of proofing systems as we could think of, including both stand alone systems and those integrated in workflow RIP systems, to take part in our test. Initially Agfa, Fujifilm and Heidelberg all declared their intention to participate but later had to pull out for various reasons, while Kodak declined from the start due to lack of resources in the time frame assigned for this test. But we plan to repeat this test again soon, and hope that these and other vendors of proofing systems, will participate in a second round. But nonetheless, we are pleased to be able to present the results from eight leading proofing systems, including those results from GMG which were done on three different colour printers.

CGS Oris Color Tuner

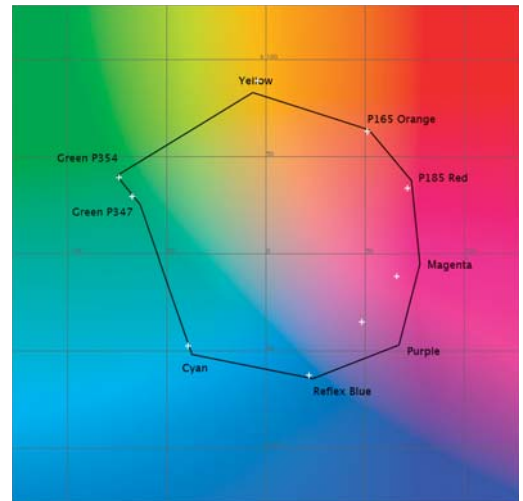
Oris Color Tuner from CGS is a standalone and open proofing system and RIP, which means the system can drive a whole range of colour printers. CGS has made the system as user friendly as possible by implementing a Set-up Wizard and Calibration Wizard. Color Tuner supports spot colour processing as well as Pantone Hexachrome ink sets. This is done by creating a colour library where LAB values for a certain spot colour are converted to the colour printer's CMYK values.

Dot gain, opacity and print order for the spot colour can be selected in order to simulate the press performance. If necessary the user can perform selective colour correction in order to fine-tune the result for certain CMYK colour combinations. Color Tuner supports double-sided printing and verification of proofs using the FOGRA control Media Wedge. The CGS Oris Color Tuner supports n-colour profiles, containing up to 15 colour channels in the ICC profile.

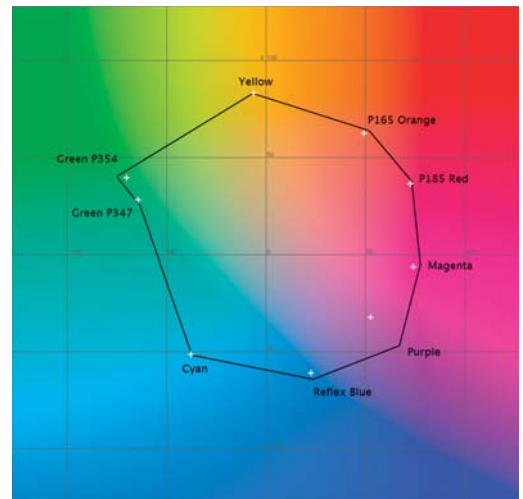
Dupont Cromanet

Dupont manufacture several lines of colour printers (see section below for the colour printers used), and the control software and RIP system is called Cromanet. Inside Cromanet is an Adobe Postscript/PDF interpreter, together with tools for linearisation and colour matching using CIELA*B* as a reference when converting to printer-specific CMYK. Although the Dupont colour printers only use CMYK inks, they are high density inks, so many of the spot colours that normally would be out of gamut for traditional CMYK process colours are in fact within the gamut of the Dupont proofing system.

Cromanet has a proprietary quality control technology called iCertification, which enables multiple systems, for example in a remote proofing scenario, to operate within a tolerance of less than $\Delta E 1$ between devices. Cromanet does not support n-colour profiles straight off, but can modify the existing licensed Pantone spot colour libraries according to the data in an n-colour profile, or create a custom spot colour look-up table. ▶



This illustrates part of the gamut of the Gimle proof when using Absolute Proof an Epson Stylus Pro 9800 printer. The black border represents the colours of the reference print. The white crosses are the colour value measured in CIELA*B* for full tone samples of the CMY colours plus six selected spot colours. Ideally the white crosses should be exactly on the border line.



This illustrates part of the gamut of the GMG proof when using Colorproof 04 and an Epson Stylus Pro 4800 printer. The black border represents the colours of the reference print. The white crosses are the colour value measured in CIELA*B* for full tone samples of the CMY colours plus six selected spot colours. Ideally the white crosses should be exactly on the border line.

Efi Colorproof XF

EFI Colorproof XF is a modular client-server solution. The standard version support limitless clients, both PC and Mac, and one printer output. Additional printers can be added by additional Printer Output Options. Among the Product Options are the Color Manager Option on order to build or modify custom ICC profiles. An option for quality management is the Color Verifier Option, and then EFI also offer Dot Creator Option for screen accurate proofing, as well as the One-Bit Option for using screened 1-bit data from the RIP when producing proofs.

In this test the Spot Color Option was used to build custom spot colour tables. EFI Colorproof XF have ready made colour libraries for Pantone, HKS, Toyo and DIC spot colours. The EFI Colorproof XF does support n-colour profiles, but up to 7 and not 10 colour channels. For the test a custom build spot colour table was used.

EskoArtworks Flexproof

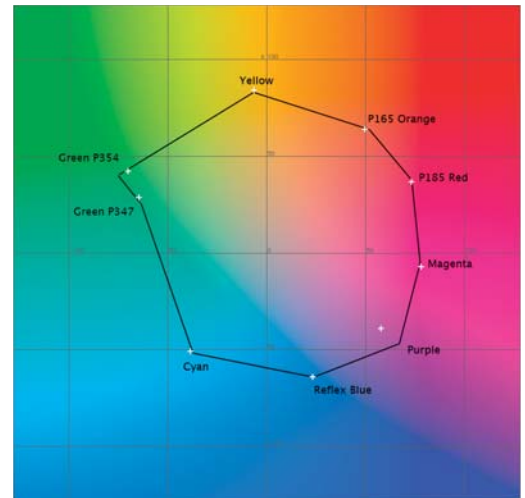
EskoArtworks FlexProof works in tandem with Esko FlexRIP and the Backstage workflow system, both part of what EskoArtwork calls Software Suite 7. This suite of software tools, which is targeted specifically at packaging pre-production, includes the Kaleidoscope colour management system. The Kaleidoscope software specialises in multicolour printing, and stores ink and colour data in a central database.

In order to simulate different screens and compensate for dot gain, FlexProof uses the Intellicurve Pro module, which compensates for each colour's behaviour on different presses and substrates. The Flexproof system supports n-colour profiles, but only up to seven colour channels in the profile. In our test, a custom colour library was created based on the measurement data provided. The Esko FlexProof proofing system supports a large range of colour printers.

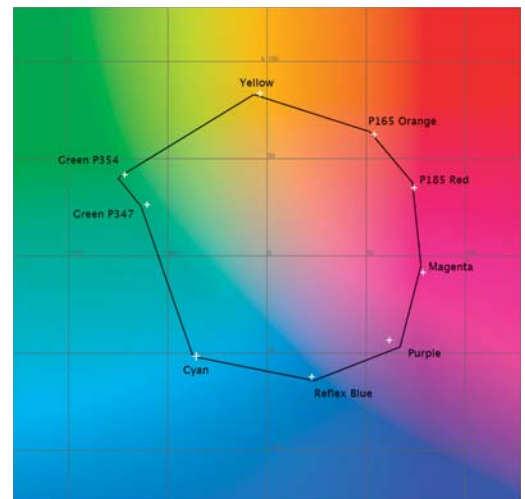
Gimle Absolute Proof

Gimle is a relatively unfamiliar name in the northern hemisphere however Absolute Proof was originally launched in 2000. Absolute Proof is now in version 5.0 and runs under Mac OSX. This proofing system is designed for colour critical environments, both CMYK and multicolour printing. Absolute Proof can be connected to any workflow system by using one- or eight-bit TIFF files or PDF for data exchange. Besides securing file integrity, this also allows accurate reproduction of the same halftone dots on a proofer as on the press.

Gimle worked in close collaboration with Pantone to facilitate the process of working with the Hexachrome ink sets for multicolour printing. Gimle claim to be able to simulate over 90 percent of the Pantone spot colours accurately when using Absolute Proof and the Extrachrome inks on an inkjet colour printer. Absolute Proof supports n-colour profiles up to eight channels, and was able to build a custom colour library based on the CIELA*B* colour data that were provided with the test form. AbsoluteProof is capable of processing over one hundred spot colour channels ▶



This illustrates part of the gamut of the GMG proof when using Colorproof 04 and an Epson Stylus Pro 4880 printer. The black border represents the colours of the reference print. The white crosses are the colour value measured in CIELA*B* for full tone samples of the CMY colours plus six selected spot colours. Ideally the white crosses should be exactly on the border line.



This illustrates part of the gamut of the GMG proof when using Colorproof 04 and an HP Z3100 printer. The black border represents the colours of the reference print. The white crosses are the colour value measured in CIELA*B* for full tone samples of the CMY colours plus six selected spot colours. Ideally the white crosses should be exactly on the border line.

in a single job and was the only vendor that provided a halftone proof for this test.

The standard version of Absolute Proof includes Pantone licensed libraries, a spot colour editor, metallic proofing, remote proofing, halftone proofing, n-colour support, double-sided proofing, dot gain edits, soft proofing, proof verification and the ability to drive unlimited units of a licensed printer.

GMG Colorproof 04

The GMG Colorproof 04 is a modular proofing system with the GMG RIP Server at its core. Colour management is performed by what GMG call the 4-D Color Transformation Engine, which supports both the proprietary GMG colour profiles and standard ICC profiles. Quality assurance is managed through the use of the FOGRA Media Wedge, and a licence for this control strip is included in the base package. Other components are the Profile Editor and the Spot Color Editor. Among the options for Colorproof 04 are the GMG Dotproof, the one-bit to Contone Module and GMG Remote Calibration Wizard for remote proofing scenarios. Colorproof 04 can be integrated to most RIP workflow systems on the market. It supports unlimited channels in n-colour profiles, but the GMG RIP as such supports up to 64 spot colour channels in the page/image. However GMG created a custom colour table in order to better match the spot colours in the test instead of using the provided n-colour ICC profile.

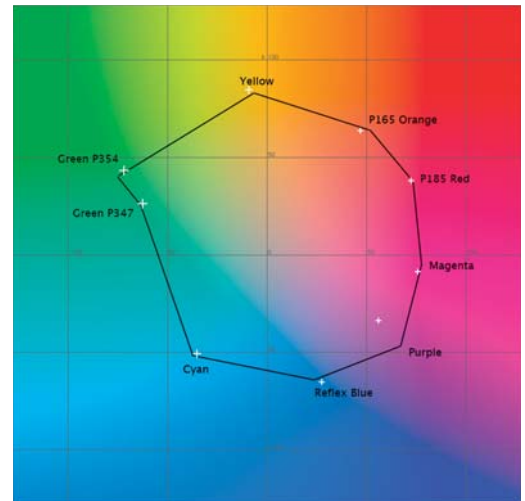
Perfectproof Proofmaster v3

The Proofmaster proofing system is modular in nature, and can be extended to support large format printing as well as screen film production and cutting devices. The base module supports photo realistic output and contract proof production using standard ICC profiles, such as the ISO profiles for offset, gravure or flexo. The Proofmaster RIP Server works on both Mac and PC.

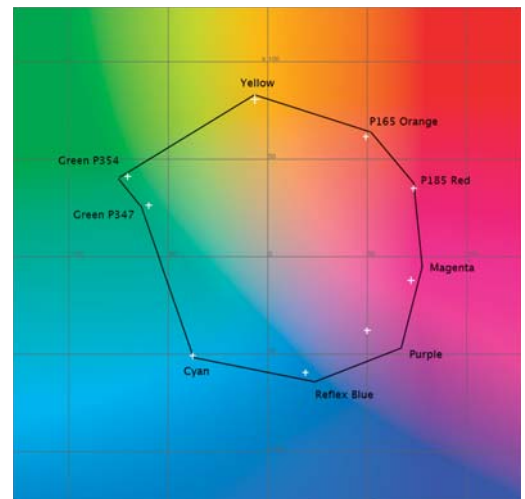
Among the options is the Certify quality assurance module, a one-bit option to connect to virtually any workflow system, and the Advanced Color option to create ICC profiles, including n-colour profiles. The advanced colour option is especially useful when handling spot colours, since it can simulate the textures of different substrates, and contains a colour foil library. There is a basic soft proofing capacity in the base version of Proofmaster, but the Softproof option extends this even further, in order to make accurate virtual proofing possible on a calibrated monitor.

Screen LabProof SE

The proofing system from Screen is called LabProof SE, and it works in tandem with the Trueflow workflow system. Part of the technology used in LabProof SE is provided by CGS through an OEM license, which means that LabProof, like CGS Color Tuner, supports multicolour printing and n-colour profiles.



This illustrates part of the gamut of the Perfectproof proof when using Proofmaster v3 and an Epson Stylus Pro 7800 printer. The black border represents the colours of the reference print. The white crosses are the colour value measured in CIELA*B* for full tone samples of the CMY colours plus six selected spot colours. Ideally the white crosses should be exactly on the border line.



This illustrates part of the gamut of the Screen proof when using Lab Proof and an Epson Stylus Pro 7800 printer. The black border represents the colours of the reference print. The white crosses are the colour value measured in CIELA*B* for full tone samples of the CMY colours plus six selected spot colours. Ideally the white crosses should be exactly on the border line.

However the user interface and integration to Trueflow and JDF is Screen's and has additional functionality such as support for remote proofing. LabProof SE contains ready made colour libraries for Pantone and DIC spot colour ink sets, and new custom made colour sets can be created using a spectrophotometer, or by entering colour values manually. As an option LabProof SE can create screen accurate proofs using one-bit TIFF files. One of the features of Screen LabProof SE is that it preserves black text and images by using black ink only, not a mix of CMY inks.

The colour printers used

We allowed the vendors of the proofing systems to choose which colour printer they used, which led to quite a wide array of printers being used. As we had noted from previous proofing tests, using the same colour printer can produce quite different results, depending on what front end you use and what RIP system it's connected to.

Canon is represented by the IPF5000, a twelve colour inkjet printer with a large colour gamut thanks to the additional colours red, green and blue (it also has four different greys or blacks, as well as light magenta and light cyan).

Amongst the other printers used was the Dupont Cromalin Blue2, with its inline calibration technology which ensures constant quality. The Blue2 uses eight high-density colours to reach a gamut that extends normal CMYK process printing. The printer differs from many other inkjet printers with its external drum imaging technology - a technology used in many CTP devices in order to obtain high registration accuracy.

Epson dominates among the printers test participant used for output, with samples from the Stylus Pro 9800, 7800 and 4800, as well as the new Epson Stylus Pro 4880, an 8-color printer using Epson's new Vivid Magenta inks. It was when The lowest colour deviation achieved in this test was on print from the Stylus pro 4880.

For HP, the DesignJet Z3100, was one of the three printers GMG used in this test. This is a twelve colour printer using CMYK plus light magenta, light cyan, red, green, blue and two different blacks and greys plus gloss enhancer. It was when using the Z3100 the best match to purple was achieved.

The test form and test procedures

We produced a custom-made test form with a central element created using X-Rite's profiling software, ProfileMaker. Many other test forms we have seen on the market only contain spot colours as solid tones, but we wanted to check the colour rendition of gradations of spot colours. Next we created a linearisation test chart for all the ten colours. This was then printed on the Speedmaster CD 102 press in a first round, in order to establish a dot gain compensation curve (often called a RIP curve) for the CTP system, a Screen PlateRite PT-6600 which imaged Fujifilm's Brillia HD LH-PJE plates.



The Canon IPF5000 should be a particularly interesting colour printer for spot colour proofing, since it has red, green and blue ink added to the normal CMYK plus black.



Dupont is one of the few proofing system vendors that build their own colour printers. The Dupont Blue series has built in calibration technology, and uses eight high density inks to achieve a colour gamut larger than conventional CMYK process colours.

▼ This proved more tricky than expected, since the dot gain curves for the spot colours didn't behave entirely as the more well know CMYK-curves. The Reflex Blue curve in particular showed an extremely high dot gain, and we finally realised was due to the dark blue pigments in the ink not being fully understood by the spectrophotometer. Our guess is that the standard algorithms are best suited for CMYK calculations, while the density for spot colours needs to be calculated for the exact wavelength for that particular ink. We instead created a dot gain curve manually for Reflex Blue that more or less followed the curve for black.

Once the press linearisation was done, (using the RIP curves), we produced a new test form in order to create the ten colour ICC profile. Here we found that many colour combinations were in fact unnecessary, and that many colour swatches in this test chart had much too high TAC (Total Area Coverage), or in other words used too much ink. This is something that needs to be addressed with more clever algorithms in the future, so that for example never more than four inks are used at the same time.

We then saved our test form as a PDF/X-file, with the intention to embed our n-colour profile using Adobe InDesign and/or Distiller. However we found that neither InDesign nor Acrobat recognised our newly created ten colour ICC profile, so we had to supply it to the proofing vendors outside the PDF. X-Rite has created a plug-in to Photoshop in order to be able to work with multicolour profiles when colour separating images, but that didn't help us, since we only used vector graphics in our test form. While it's possible to create six- or seven-colour ICC profiles in order to expand the colour gamut of photos, most of the artwork in, say, packaging print production uses four colours for photos, and spot colours for vector graphics.

The evaluation of the proof was made comparing the measured values from three different press prints, all measured three times each and then averaged. Every proof was in turn measured three times, and the averaged result was compared to that of the press run, printed using CMYK plus six spot colours.

As a side project we wanted to estimate the measuring tolerance when using different spectrophotometers, and so conducted a limited gauge test. In parallel to sending out our spot colour test form and reference print, we also sent some print samples of our spot colours, kindly provided by Pantone. Those colour samples were measured by Pantone at its New Jersey printing plant, by us at Digital Dots, and by a number of the proofing vendors. When analysing those measurements we found that the tolerance wasn't as large as we had feared.

We have heard from different people that spectrophotometers of different makes (and sometimes even those of the same brand) can differ by up to $\Delta E 1$ measuring the same sample which, if true, would have made presenting results with a decimal slightly silly. We found that if you measure



Epson printers are commonly used in proofing systems – here the Stylus Pro 4880 with the new Vivid Magenta ink set from Epson which enhances the colour gamut compared to the standard Ultra Chrome inks.



The HP DesignJet Z3100 was the printer that could reproduce the purple spot colour closest to the real print. This is because it's a twelve colour printer using CMYK plus light magenta, light cyan, red, green, blue and two different blacks and greys, plus gloss enhancer.

with and without a UV-filter, the result can actually vary by up to $\Delta E 1$, when measuring the exact same sample.

However, when measuring a series of samples, and then averaging the results, and only using spectrophotometers without a UV-filter, the variation was about $0.3 \Delta E$. This is still a quite high value, so when presenting the results we decided to only classify three levels of colour accuracy; below $\Delta E 3$, below $\Delta E 4$, and over $\Delta E 4$ (where a low ΔE is better than a high).

When referring to ΔE values above, we mean the 1976 formula, based on calculations with CIELA*B*. Since then other formulas for how to calculate a colour difference have been suggested. The formula from 2000 is gaining recognition and is used by IFRA to evaluate colour consistency in newsprint. This formula is said to better match how the human eye perceives colour differences, as well as differences in luminance for greyscales. However the 1976 ΔE formula, ΔE_{76} is still the most commonly used, and until the ΔE_{2000} is better understood and more widely used in commercial print, we'll have to continue referring to ΔE_{76} .

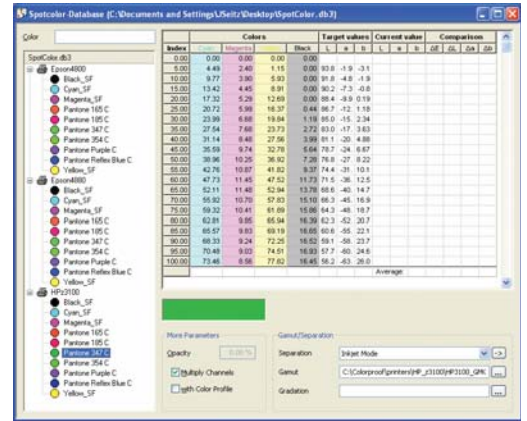
Overall good colour accuracy

We measured each proof three times, and then averaged the result. We compared the results to the target values of the press run. These values were taken from three samples, each read three times and then averaged to give nine readings in all. We found that in general the proofing systems could match the spot colours quite accurately.

Proofing system	Printer used	Custom col dict	using ICC-profile	
CGS Oris Colortuner 04	Canon IPF5000		X	< 4 ΔE
Dupont Cromanet	Dupont Cromalin Blue2	X		< 4 ΔE
Efi Colorproof XF	Epson Stylus Pro 9800	X		< 3 ΔE
Esko Flexproof	Epson Stylus Pro 4800	X		< 4 ΔE
Gimle Absolute Proof*	Epson Stylus Pro 9800	X		> 4 ΔE
GMG Colorproof 04	Epson Stylus Pro 4800	X		< 4 ΔE
GMG Colorproof 04	Epson Stylus Pro 4880	X		< 3 ΔE
GMG Colorproof 04	HP Designjet Z3100	X		< 3 ΔE
Perfectproof Proofmaster v3	Epson Stylus Pro 7800		X	< 4 ΔE
Screen Lab Proof	Epson Stylus Pro 4800		X	> 4 ΔE

*Gimle was the only vendor who provided a halftone proof

The results table uses colour to show the categories of the results. There are separate columns to indicate those test participants who used the target values provided when making a custom colour dictionary, and those who used the ten colour ICC profile directly as the basis for the matching. Several vendors reported that while using a provided ICC profile is the quickest way to create a proof, a custom made spot colour



Several vendors created a custom spot colour library instead of using the provided ten colour ICC profile as the basis for colour matching. Here a sample of the user interface from GMG Colorproof 04.

dictionary for the actual paper and print method often yields a more colour accurate result.

The perfect colour match – summary

When defining the parameters for this test we tried to judge what colour deviation would be acceptable for spot colour proofs, and what might be possible to achieve with today's technology. FOGRA and ECI have previously suggested a target average ΔE_{76} of four as a reasonable goal for process colour proofing. We thought that this would be a good target also for spot colour proofing, even though we know that a colour difference of two ΔE_{76} actually is visible for a trained colour evaluator, with a proven high colour discrimination capacity. We were pleased to see that several systems were well below 4 ΔE_{76} on average, and some even under 3 ΔE . No system produced proofs with a colour deviation above in average 6 ΔE , so all systems show a good visual match of the spot colours in this test.

It's probably not reasonable to try and persuade the vendors of proofing systems to enhance their systems immediately, in order to try and reach, say, less than 2 ΔE when proofing spot colours. It will be difficult to maintain this level of colour precision on press in any case. There is as yet no ISO standard for spot colour printing in place, so before that happens we have to treat spot colour printing and proofing with some extra care: make sure the desired spot colour can be accurately reproduced on press.

As this test shows, many of the spot colours can actually be accurately reproduced on the high end proofing systems, using colour printers with high density ink sets, or using eight to twelve colours in the colour printer. The trick is to define the spot colours beforehand, to learn how to handle spectral data, both for wet and dry print, on different types of substrates, using inks from different vendors. And using multicolour profiles (n-color ICC profiles) is one way to go about, but not the only one.

– Paul Lindstrom



Special Thanks

A special thank you goes to Mike Lambert at Heidelberg for help with the reference printing, Peter Constable at Adobe for clarifications about Creative Suite usage of n-colour profiles, John Setchell and Andy Hatkoff at Pantone for help in defining spot colours as spectral values, Peter Brugman at Screen for help in defining dot gain curves for spot colours and to Peider Fried at X-Rite for help with multicolour profiles. And of course to the vendors who dared the challenge and participated.

Digital Dots Spot Colour Proofing Test Kit

The whole test package, including test documents on a CD as well as press reference print samples and detailed instructions can be ordered from Digital Dots. This is an excellent opportunity to test your own proofing system and configuration to see how well it fares in comparison to the above listed systems. The complete test package can be ordered through the Digital Dots website www.digitaldots.org after October 3rd at the price €350 plus shipping. The documentation describes how an evaluation should be made, but if you prefer us to measure your proof sample and send you the results, this can be done for an additional fee.

A Quark's Tale

In 1981, when Quark was originally founded, the publishing world had no idea of the momentous changes just around the corner; nor did computing, or the printing industry. We had the Xerox Star to tease us (and Xerox), and we had Apple faffing about trying to sell Apple IIIs, but Adobe had yet to arrive. It wasn't until three years later that the ingredients of the desktop publishing revolution came together: layout software, a computer with a graphical user interface and a page description language to image text and graphics in a single data stream. Within a few short years and with many casualties along the way, desktop publishing was making serious inroads into the professional production market. And Quark was leading the charge.

By 1987 when QuarkXPress was released, PostScript was coming of age. Professional publishers were keen to embrace the new technology and developers of traditional front end technology were building new systems based on the tenets of desktop publishing: desktop computers and open standards.

QuarkXPress's greatest asset was the amazing control it offered designers and layout professionals over typography and composition. This, more than anything else, endeared the technology to a fast growing professional user base, and steadily nailed down the coffins of Quark's competition.

Quark's rise was almost meteoric as the company carried everything before it. Within a few years Quark's founders, Tim Gill and Fred Ebrahimi were the stars of the graphic arts conference circuit, heroes setting new standards for their competitors, and full of ideas for how to leverage their amazing success. Simultaneously they struggled to manage a rapidly growing enterprise and a sprawling and obstreperous customer base. The company's response to pesky customers was less than stellar, and problems were compounded as the industry started to move to collaborative tools and workflows. Quark's partners also did not appreciate the flamboyant arrogance that came to so characterise the company in its efforts at collaboration, both personal and technological.

It is well known that Quark managed its customer relations with quite legendary ineptitude. Its exhausting toils with market growth, with conflicting expectations within its huge user base and within the company itself, rapidly undermined what had once been an excellent relationship between Quark and its customers. There are plenty of horror stories, but horror stories or not, such was the wonder of XPress, and such was the extent and loyalty of its user base, that companies tended to stick with Quark. They may not have liked Quark's 'like it or lump it' attitude, but even when InDesign came along, it took a good five years for Adobe to really steal away much of Quark's market. ▶

QuarkXPress's greatest asset was the amazing control it offered designers and layout professionals over typography and composition. This, more than anything else, endeared the technology to a fast growing professional user base, and steadily nailed down the coffins of Quark's competition.

▼ Despite its difficulties, Quark claims that the majority of its customer base works on fairly recent versions of XPress. Gavin Drake, marketing director for Quark Europe says: “The vast majority of users upgrade, with minimal [numbers] on version three [and] version four and the majority on version six and version seven”. Quark’s customer base still numbers in the millions and not just because of piracy.

Fortunately for Quark, Adobe was itself pretty inept when it came to capitalising on the growing market for an alternative to XPress. Its sluggish response allowed Quark room to go through its growing pains, mature and finally realise that the choice between survival and demise was its own to make. Today after a few false starts, Quark is sincere and energetic in its focus on its core business, supporting its customers and striving to rebuild relationships with its distributors and partners.

Of course the saying and the doing are all too often not the same thing, particularly with privately owned companies managed by mercurial owners. But things really have changed for Quark. The owners, which still number members of the Ebrahimi family but not Tim Gill, recognised they needed tough professionals to manage the company. Quark’s future depends on its transition from the industry’s least revered vendor, to something akin to a humble champion.

Fred Ebrahimi exited Quark’s management a year ago and his daughter Sasha Ebrahimi is now chairwoman. The company’s shareholders hired people with the knowledge, experience and dedication to turn the company around. Ray Schiavone is Quark’s CEO and runs the business as if it were a public company and fully accountable to its customers, even though it is privately owned and doesn’t disclose revenues. Terry Welty is senior vice president for marketing, with a long background in enterprise solutions. Graham Freeman recently left Adobe where he was responsible for global sales to join Quark as senior vice president of sales for Latin America and Asia.

Matthew Wallis senior vice president of sales Europe came from HP in early 2005 tasked with re-engaging Quark’s distribution network and establishing tightly managed and responsive communications with its channels in the US and Europe. He recognised that this would be an important step to resolve Quark’s relationship crisis with its customer base. He is putting in place the infrastructure and company policies to support and make accountable the Quark distribution network, without undermining its confidence. He says: “We’re focusing on the things that we’re good at, with good industry partnerships to provide the rest”. Distributors and partners get regular logistics updates, and Quark is “getting out of things that are not our core focus”. All of the new members of Quark’s senior management team have solid large-corporate experience, professional managers with proven track records. They are responsible for a workforce of over one thousand people, including some 600 in India.



Matthew Wallis, senior vice president of sales, Europe.

▼ Quark is opening an R&D facility in Palo Alto, leaving the teams in India to continue developing mature products, and support services. There are also development people based at Quark's headquarters in Denver. The percentage of revenues invested into R&D is in the high 20s, which is some 8-10 points higher than Adobe, even though Adobe has to support well over eighty different products. Quark has aggressive XML-based product development, so that XPress will be better able to support and capture corporate as well as printing and publishing applications, and the "move to multiple delivery" for all content delivery.

It has taken a while to get back their attention, but Quark is also engaging with large accounts including corporates such as banks, travel companies and publishers, repairing important customer relationships at key accounts. This re-engagement is a priority for Quark's new crop of senior executives.

Seven Up?

By the end of last year around 70,000 of Quark's largest customers had moved to XPress 7 and according to Quark the user base is consistently upgrading, especially to the Vista Intel updates. This is good news for Quark as Welty says: "We're seeing the return on our big investment into Vista and Mac Intel." People are also upgrading because they like the fact that the software is designed to be easy to use across all media formats, so there is no need for users to develop additional skills for repurposing files.

Quark has been rewriting the architecture of QuarkXPress for a number of years to support multiple media formats via what is in essence an internal XML database. This means the content is always maintained independent of the content's formatting on the page. The same content can therefore exist in multiple places, either within the same layout or in multiple layouts: print, web and interactive. For example, a headline in an advert that also appears on a website or in an interactive Flash presentation, can be formatted appropriately for each media type but the content is always synchronised. Users will see the benefits through synchronised content and composition zones in QuarkXPress 7. As Welty explains: "Publishing automatically from a single source of data to lots of different media formats and different target audiences is still something yet to be achieved by most companies. We're focussed on this both at the desktop level in QuarkXPress but also at the enterprise publishing level in products such as QuarkXPress Server and Quark Publishing System."

There used to be an inherent conflict between structured and formatted documents, however it seems that Quark is focused on solving this paradox. The company recognises that exploiting multiple publishing channels demands data format independence. XML is fundamental to this and Quark's lively development community reinforces its XML commitment. XTension developers offer all manner of tools for converting XPress files into tagged XML documents for the web or any other format and vice versa. Unlike Adobe's XML Architecture, which works in con- ▶



Gavin Drake, marketing director for Quark Europe.

▼ junction with PDF, Quark maintains XML support independent of the formatting within QuarkXPress 7. As Welty puts it: “Once your content is in XML, automated and personalised publishing to multiple media becomes much easier”.

Its commitment to XML is also helping Quark to forge new relationships with the development community. The company has set up a web-to-print deal with HP Indigo, to drive Indigo presses using XPress Server which is the only technology of its kind using PPML. Quark prefer partnerships to be standards-based rather than just company-based, because working with standards gives them more flexibility for cooperations that benefit customers.

What do the customers say?

After many years of wanton neglect, customers now really are Quark’s priority again: there is no choice. This customer-centricity and market responsiveness shows in Quark’s efforts to revivify its channels, its quarterly maintenance releases and in its advanced technology developments. The new graphics and print engine in XPress 7 sits on top of the computer’s OS, making it in theory easier to hook into other data formats, such as XPS. It simplifies management of different data formats within XPress without converting them.

Welty believes: “Our customer-centric approach is a real strength ... we’re going to pay attention to our customers and they are what we revolve around”. He wants Quark to focus on giving users the best experience with Quark and with XPress possible. Much more is coming from the server side of the business, because as Schiavone says, “Quark is well positioned because we believe we are well placed for where the market is going, rather than where it is right now.”

One of the biggest catastrophes in Quark’s customer relationships was its falling out with its Scandinavian users. The details are gruesome but involved much shouting, borderline abuse, huffy exits and stunned silence. Speaking with one of Quark’s Danish customers who moved over to 400 seats running InDesign, we were told that the door is still open for the future. Quark is assiduously courting lapsed customers, and keeping the dialogue with them positive. Now that might be one lone voice in Scandinavia, but elsewhere we have heard similar acknowledgements that Quark has indeed changed.

Future Prospects

Quark has taken a long and painful detour from its initial route towards success and glory. In that time it has managed to lose large herds of its user base to a competitor who really didn’t have to work very hard to rustle them. Over the years people have turned to Adobe because they were fed up with Quark, so helping Adobe to grow to be the largest software supplier to the graphic arts business. Adobe has broadened its base to increase revenue streams, spreading its reach often via Creative Suite, to influence every part of the business. ▶



Terry Welty, senior vice president for marketing.



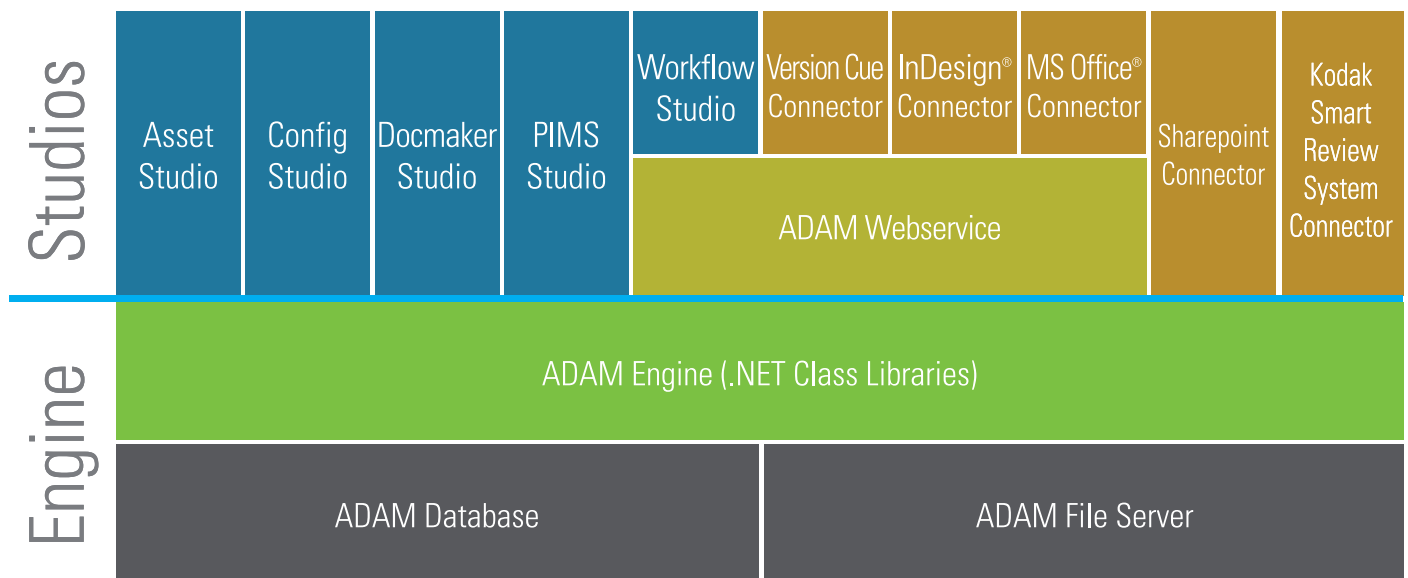
But with influence comes responsibility and obligation, the need to fight and grow on many, sometimes conflicting, fronts, while balancing the management of the core business. Adobe has lately been accused of an arrogance not dissimilar to that of Quark's in years gone by. So perhaps there is a strong chance for Quark to re-establish a position for itself as the caring, sharing face of production software development. There is every sign that it's worth giving Quark another shot, and that customers should give the company one last chance to prove itself because, as Wallis promises: "You'll see a different Quark in the next couple of years". And after all, without Quark, the publishing industry would be a much less interesting place.

– **Laurel Brunner**



Adobe opens up CS3 to DAM systems

By now, many of us have upgraded our Adobe Creative Suite of layout and design software to version 3, or CS3 in short. There are of course many single features which make the upgrade well worth its price, but for larger organisations, be it printers or publishers, it's perhaps not so much single features that make CS3 particularly interesting. Rather it's the extended possibilities of connectivity and team-based production that may be the main attraction with CS3.



Adobe has made a somewhat unexpected move, and as such a very welcome one, in opening up the Version Cue technology to third party developers, by offering a Version Cue SDK (Software Development Kit). The Version Cue technology as such isn't new for Adobe CS3: it's been in the CS package since CS2. To quite a large extent, it's based on the general WebDAV technology (Web-based Distributed Authoring and Versioning), a technology Adobe had already started to experiment with in CS1.

The main goal with Version Cue and WebDAV is to help production teams keep track of the different versions of documents, especially in large media databases. Another practical issue is to prevent a single user from overwriting a document with an erratic version. A third issue is to allow several users to access the same document without file corruption.

Since many workflows of today involve software from several different vendors, it's often mutually beneficial for vendors to open up their software solutions to integration with third parties, even if this sometimes means direct competitors. This trend – integrated hybrid workflow so-

A sample of a hybrid system, open to many standard software programs, is the asset management system aDAM. At the core is the Microsoft .NET technology.

lutions, we think is so interesting that we contacted some of the DAM system vendors to ask if they have started to use the Adobe Version Cue SDK.

Perhaps not the best known DAM system, but a company with a fast growing number of clients, is the Belgian company Adam Software (written aDAM as the product name). Pieter Casneuf and colleagues have experience from selling and installing media databases of different makes, but decided in 2000 to build a new platform based on Microsoft .NET that could be integrated with many different workflow solutions and separate software.

“We like to describe our solution more as a asset management framework, rather than asset management application”, says Pieter Casneuf, Business Development Manager at Adam. He continues: “We know that within an organisation the different users have different roles and favour the software they are used to and familiar with. So our solution is modular by nature, and you can build different types of workflow in a drag and drop type of way, choosing among the different building blocks, or modules that we offer. In general it should be as intuitive as possible for each user to use the system, and a closer integration into a popular application such as Adobe Creative Suite is of course very interesting and useful.”

Casneuf points to one of his customers, Sanoma Magazines, as an example of a publishing house that abandoned a custom built DAM system in favour of the modular aDAM, version 4. Jan Heylen, ICT Manager gives us the background.

“We had an outdated DAM-application based on AppleScript and heavy use of a naming convention. To use the system, designers had to switch back and forth between the custom-built user interface to the DAM-system, and the Adobe applications. It was also difficult for users outside our network to get access to files. With aDAM and the close integration with CS3 through the Version Cue Connector, users have access to the files in the media database directly through the 'Open' dialogue box, from within the different Adobe applications.

“Together with more automated processing of files, the move to this new system has saved us some \$3m already, and will continue to save us time and money. Those savings were made from reduced work and costs in prepress (image handling, colour proofing and PDF-generation) together with reduced use of couriers. Better colour management in general is an important part of the saving, but also shortened deadlines for both the editorial departments as well as the advertisement departments. Sanoma produces in all around 300 magazines in 13 European countries.”

Canto is one of the veterans within asset management systems with its DAM system Cumulus. We asked Ulrich Knocke, CEO at Canto, if he would consider making use of the Adobe Version Cue SDK. As it turned out, Canto was well underway in implementing this in the Cumulus



Mark 5 is a system integrator with it's roots as an IT department for a prepress house. Kerstin Wilke helps ad agencies, marketing departments and publishing houses to set up efficient publishing workflows, often based on standard components such as Adobe CS, MS Office, Helios OPI, all glued together with a common Web-based user interface.

▼ Server extensions. Knocke stresses that user access is always controlled by Cumulus, but it's possible for a designer to connect directly through Adobe Bridge or from within any other CS3 application, either to a folder, or to single files.

He points to one of the early adopters of the Version Cue connection to Cumulus, the system integrator Mark 5 in Germany. Started as the IT department of the prepress service provider Donner & Nagel, Mark 5 now has eight employed programmers and system integrators. At Donner & Nagel they have implemented a hybrid workflow solution consisting of an InDesign Server, the Canto Cumulus DAM solution, Helios OPI and Heidelberg's Prinect Printready RIP system. Oliver Häuser, one of the founders and owners of Mark 5, describes the solution as a document correction workflow. The internal name for the solution is Media Designer.

"We want to make the underlying systems more or less invisible for the users" says Häuser. "We create a user interface layer with Adobe Flex, basically creating a common web interface. With the new Adobe Version Cue SDK we have been able to let the users open files directly in Adobe CS3, using the 'File – Open' dialogue menu, without realising that they are actually accessing the Cumulus database."

Kerstin Wilke at Mark 5 is responsible for the testing and implementation of the Media Designer. She explains that efficient production workflow solutions are not only needed at printers and prepress departments, but definitely also for a whole range of producers of documents.

"Mark 5 is a software house, separate from Donner & Nagel, which serves many different customers with publishing solutions", explains Wilke. "We analyse, consult, implement and train our customers, be they ad agencies or perhaps more often, marketing departments from many different industries. In the training stage we see that it's very important if the users can work in software they are familiar with as far as possible, and for the system to be able to integrate the different system components as seamlessly as possible."

Another veteran among asset management systems is Extensis, with the media database Portfolio, which has its roots back to when it was developed by Aldus (now part of Adobe) as Fetch. Today Portfolio is a scaleable asset management system where the smallest configuration is a standalone media database with a simple internal database.

Through the SQL Connect solution Extensis Portfolio can use one or several databases, be it for example Microsoft SQL, MySQL or Oracle. We asked Davin Kluttz, senior product manager at Extensis, if he saw any potential benefits in the recently released Adobe Version Cue SDK.

"We have worked quite a lot, and for a very long time to make the user interface and user experience as easy and as smooth as possible. For ex-



Extensis is a good example of a company that has embraced the idea of hybrid systems. Davin Kluttz points to the fact that the Portfolio asset management system can act as a Web publishing solution, but also have integration with the Adobe suite of applications, as well as to QuarkXPress and MS Office.

ample what we call the Portfolio Express Palette makes the content of Portfolio catalogues available within a large number of applications. But the Version Cue SDK makes it possible for us to move the check in/check out process to happen at the Open dialogue window within the different CS3 applications.

“But it’s our module Project Sync that really enhances the possibilities for advanced versioning control. In a way this creates a hybrid system combining the workflow structure in Portfolio with projects created in Adobe Version Cue. But creating thumbnails et cetera is still much faster in Portfolio than in Adobe bridge.”

Kluttz continues: “Talking about hybrid systems I would like to take the opportunity to point out that the base version of Extensis Portfolio Server already supports Web integration automatically and in real time. The Net Publish module allows users to publish content interactively, independent of computer platform. For proofing, approvals and correction cycles what we call Smart Galleries makes the set up of such projects quite easy.”

Another sample of a hybrid publishing system is the Ctrl Bridge solution from the Swedish company Ctrl Publishing. This connects various media asset management systems and Adobe CS3, as well as Adobe InCopy, to an umbrella interface with client modules called Art Director, Copywriter and Reviewer. Using the Adobe Version Cue Server as a central hub all the users can connect to projects via the internet.

So, in conclusion, it seems that we are seeing a new trend of highly integrated systems, covering more and more aspects of the publishing workflow. They are based on standard components, specialised for certain tasks, but are bound together with a custom built user interface, often based on Web technology. The key thing is that vendors need to open up their software to third party integration, and this now seems to be happening fairly quickly.

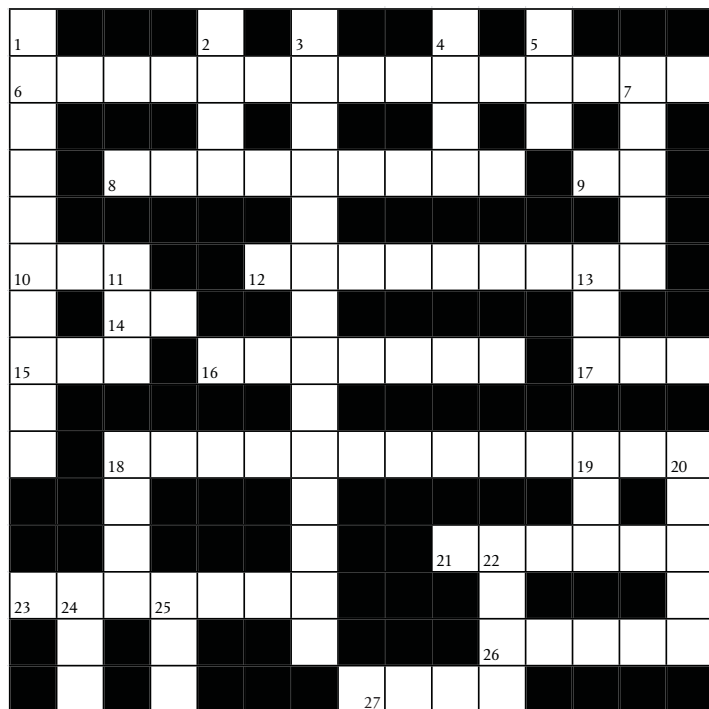
– Paul Lindstrom

The key thing is that vendors need to open up their software to third party integration, and this now seems to be happening fairly quickly.



Graphic Arts Crossword Puzzle **Number 4**

If you get stuck, go to the [IGAEEF](#) website for some hints. For those of you that really get lost, answers will be in the next issue of Spindrift. **The answers for last issue's puzzle are on the next page.**



Across

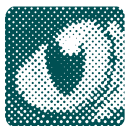
- 6 The kind of output that uses two images to create a 3D effect. (10,5)
- 8 An overused word to describe systems, that suggests solving problems. (9)
- 9 What is the first sheet you can sell? (2)
- 10 Short, long, medium and variable, they're all the same kind of thing. (3)
- 12 Images with insufficient resolution go like this when enlarged. (9)
- 14 Information technology. (2)
- 15 Printers should never take one of these. (3)
- 16 This kind of print needs cylinders and blades. (7)
- 17 A popular business systems technology. (3)
- 18 The underlying technology in modern displays. (6,7)
- 21 We need this to see where we are going. (6)
- 23 The wonderful smelling inks that we need to do without. (8)
- 26 Another word for coverage zones. (5)
- 27 Another kind of colourants. (4)

Down

- 1 Digital technology has made prepress this kind of process. (10)
- 2 Flood an area on the page with colour. (4)
- 3 The industry must keep up its efforts to achieve this. (14)
- 4 The foundation of a good press. (4)
- 5 The foundation of 4 in its raw state. (3)
- 7 This kind of eye can't see what the loupe shows. (5)
- 11 Non-impact printing (3)
- 13 PostScript that was either encapsulated or evil, depending on your point of view. (3)
- 18 What one should never have in production. (4)
- 19 Another name for dot gain? (3)
- 20 Line art is made up of these. (5)
- 22 A great Japanese trade show. (4)
- 24 Character recognition based on visual appearance. (3)
- 25 Volatile organic compounds (3)

Answers for Graphic Arts Crossword Puzzle Number 3

	H			F								O		
	A		P	L	A	T	E	M	A	K	I	N	G	
	L			E		A		O		E			R	
	F	L	U	X		G		R		Y			A	
				O				P			V		N	
C	R	T		G	R	A	P	H	I	C	A	R	T	S
	A			R		L					R			
	M	E	T	A	L	L	I	C		K	N	O	W	N
				P				H			I			O
	N			H	I	C	K	E	Y		S	P	O	T
F	U	Z	Z	Y		L		C			H			A
	M		I			A		K		B				B
	B		P	O		M	Y	S	P	A	C	E		L
	E					P		U		C		P		E
C	R	E	A	T	E	S		M	A	K	E	S		



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