## Computer-to-Plate

# IT'S ABOUT TIME

BY JOHN ZARWAN


During the past decade, thousands of printers have successfully and profitably adopted computer-to-plate. Initially viewed as an "unproven", expensive and confusing technology, requiring both substantial investment and infrastructure, CTP has not only matured but has become an essential requirement for most printers to stay competitive. The print industry has seen more colour jobs, shorter runs, jobs increasingly submitted in digital form and competition with other printing technologies. Printers must continue to improve their work flow to take advantage of their customers' increasing knowledge and expectations as well as the evolving improvements in technology.

Most printers that adopt CTP do so hoping to save money. They typically look for savings in film, which is eliminated, and labour. And the ROI from that is usually enough. But the true economic benefits go well beyond that simple analysis to improvements in print quality and increased press capacity (a mixed blessing, to be sure).

Computer-to-plate is critical to improving manufacturing efficiency. The arguments in favour of CTP are not theoretical; it provides real economic benefits. First and foremost, it is a shorter process, with fewer production steps. Fewer steps mean less chance of error. CTP forces an all digital workflow, giving improved control over the entire prepress process. Perhaps even more important, it means faster turnaround, higher productivity and better throughput.

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With first generation digital plates, you will get sharper dots, control dot gain and have the ability to incorporate CIP3/4 and preset the ink fountains. Printers find they get better registration, which leads to faster make-ready and less waste. Simply put, the press prints better. Indeed, perhaps the biggest surprise for the early adopters was the savings achieved in the pressroom, which were substantial.

While the majority of larger and increasingly mid-sized printers have installed CTP many printers have still delayed and not yet implemented computer-to-plate. The main obstacle, particularly for smaller printers, is the initial capital cost of the platesetter and the associated digital infrastructure and required prepress.

Changes in work flow are probably most significant. Going CTP means the prepress process must be all digital. Trapping, imposition, proofing and file management must all be digital. Problems with in-house and customer file preparation must be caught early. There is less tolerance for mistakes and corrections than in a film-based workflow. And although most jobs now come in as digital files, merging film and digital jobs can still be a problem for many, such as forms printers.

Proofing was another issue, but that is mostly in the past. The days when digital proofing was not universally accepted are long over, with the overwhelming majority of colour proofs now digital.

Another objection that has been overtaken by events is plate availability, cost and quality. While digital plates still carry a premium over conventional plates, prices have fallen and the gap has decreased. This is particularly true for the smaller printer, who “pays up” more for conventional plates. The slightly higher price of digital plates now tends to be more than the cost of the film and chemistry it replaces.

For most, implementation of computer-to-plate is fairly painless. Stories abound of problem-free platemaking within a day or two of setup. That’s not to say there aren’t problems. Implementation of a digital workflow will ease most of these, but staff needs to be retrained. And in many plants, press operator acceptance can be an issue. But these are not insuperable and well worth any short-term inconvenience.

Now that you’ve been forced to move to direct-to-plate to improve quality, lower cost and shorten turnaround times, you have a number of decisions to make regarding technology; plate type; workflow; and supplier.

As this is a computer-to-plate system, you should start with the plate. If you currently use polyester plates, do you want to stay with this or move to metal? There are a number of excellent computer-to-polyester plate systems from suppliers such as Agfa, A.B.Dick and Heidelberg.

Next choice is format size and range of sizes. While printers typically buy a platesetter that matches their largest press, many 4-page printers have purchased 8-page platesetters. The incremental cost hadn’t been that great and there was always the hope or expectation that they might eventually purchase an 8-page press. But don’t ignore the smaller sizes. Make sure the CTP system can image your smaller plates as well.

Metal plates from all the major vendors perform well. You should choose the plate that is most appropriate for your environment – run length, quality and press performance. There are a number of plate choices, often associated with the imaging technology used by the platesetter, thermal or visible light lasers.

Both technologies work; one technology cannot address all market needs. Thermal and visible light have been competing since Drupa 1995; violet is the current visible light technology. Both can produce high quality. Print requirements, cost, and your preferred supplier will dictate your technology choice. Agfa, Heidelberg, Fuji, Creo, and Presstek, among others, offer thermal platesetters. Agfa, Heidelberg and Fuji also sell violet machines, as do other smaller manufacturers.

Thermal is the best choice if long runs, greater than 350,000 impressions, are required. Although you might hear otherwise, thermal is appropriate for short runs as well. Most thermal plates can be used with UV inks, high screen rulings, and abrasive substrates. Pre- or post-baking might be required, however, to achieve these results.

Thermal plates can be negative, positive or processless. Negative plates usually have a preheat oven but also fast exposure time on the platesetter. Examples include the Fuji Brillia LH-NI; KPG Thermal Gold, the Spectratech 830-n (now the Creo Mirus) and the Toray CL. Positive thermal plates usually do not require preheating, although they may be post-baked. Agfa’s P970; the Fuji Brillia LH-PIE; KPG Sword; the Creo PTP; and the LT-2 (originally Western Litho/Mitsubishi Chemical, then Lastra, and now Agfa) are examples of positive thermal plates.

Processless or chemistry-free plates have received a great deal of attention since Drupa and Graph Expo. They require no chemical processing: expose and print. Examples include Presstek Anthem and Applause and Agfa :Azura. KPG has shown but not introduced Thermal Direct, and Fuji had a technology exhibit at Drupa.

Violet plates can either be silver halide (Agfa Lithostar; Heidelberg Saphira) or photopolymer (Fuji Brillia LP-NV; Agfa P91V). Silver halide plates tend toward medium run lengths and have a high resolution. Pre-heating or post-baking is neither necessary nor possible. Violet photopolymer plates are best for small to medium run lengths; medium resolution; may have preheat integrated in the

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processor; and post-baking is possible for longer runs or UV inks.

Other factors that will enter into your decision include the overall cost of the plate-making operation (chemistry; processing; cleaning) and your relationship with your dealer and manufacturer.

Once you've decided on a plate, your platesetter choices become much more limited. You'll also have to decide on your throughput requirements. How many plates will you make? What are your peak requirements? How many plates per hour will you need to image? What level of automation is appropriate? Most platesetters come in manual, semi-automated or fully automated versions. Again, this is pretty much a matter of economics. How much throughput do you need, how many different plate sizes do you use and your local labour rates will all influence your decision to spend the additional money.

Finally, you probably will want or need to upgrade your workflow. This decision, while it will influence your choice of platesetter, can be independent. Popular workflows from equipment suppliers include Agfa Apogee, Creo Prinergy, Screen TrueFlow and Heidelberg Prinect. Many vendors offer workflow from software suppliers such as Rampage, Nexus from Artworks, EFI's OneFlow, or Dalim.

At the end of the day the advantages of going computer-to-plate for the typical printer are overwhelming. Despite the initial capital costs, which can appear high to a smaller printer, the on-going operational savings, improved quality and increased productivity make a compelling case. Your competition has lowered their costs, streamlined their production and shortened the time it takes to deliver a completed job. Increasingly, going direct-to-plate will be a requirement if you are an offset printer.

John Zarwan lives on PEI and has been involved with CTP for more than 10 years. His white paper on CTP Plate Making: Understanding the Real Costs is available on his website www.johnzarwan.com.