



Technical Article

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Prepress techniques: Time for change.

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When the MaxPro Prepress suite was first demonstrated to the public at the Drupa Innovation Parc in 2008, it challenged the status quo, leading one industry expert to describe the solution as “Revolutionary”. In this article, the author discusses the reasoning behind the MaxPro development and the benefits to be gained from working in a Raster Technical environment.

For the past decade or so, the Prepress sector of the Flexographic and Gravure industry has utilized the available “specialised” software applications and tools to create technically correct, final, press ready files. Has the process been easy, efficient, fast and cost effective? - or has the technical preparation of files with often complex Vector effects been a slow, time consuming, dare I say even painful procedure?

The Prepress sector can be defined as performing 3 core tasks - Those which are: a) Graphical, b) Technical c) Platemaking or Engraving. The first task, the Graphical side takes care of the concept, design, layout, insertion of text and images and the creation of mock-ups and concept proofs. Once the design has been approved by the client, it is then that the second element, the Technical tasks are addressed. This involves the generation of technically correct files via trapping, colour mapping, image adjustment and plate/cylinder layout. The third operation concerns the exposure of these final layout files to plate or cylinder, ready for the print run. Over the past 10 years, huge advances have been made in the Graphical area.

Thanks to software developers like Adobe with their Illustrator and Photoshop graphics applications, designers have an array of powerful tools and special effects at their disposal. These applications assist in the creation of stunning designs which in turn convey the brand owners product and message. Likewise, the latest generation of imaging devices (be they of the Flexographic or Gravure variety) are capable of producing plates, sleeves or cylinders of the highest quality, retaining information and detail which even five years ago would have been unimaginable. Let us not forget Digital Print, whereby developers of inkjet devices strive to bring innovative new output engines to market and in doing so, challenge the status quo.

But what of the Technical tasks within the Trio of Prepress processes? Are the tools available in keeping with the advances made by their Graphical and Output counterparts? Questionable. An application designed over ten years ago to address trapping and layout is now often a bottleneck in the whole process: and the reason? - the technology has not been advanced at a sufficient rate. Repro companies, departments and specialists who perform this technical procedure of trapping, color mapping and layout, a procedure which is so integral to the Prepress process still spend many a long hour working in a Vector environment. In the pursuit of the creation of technically correct, final output files, the process is antiquated, costly and time consuming.

The RIPping Point.

Historically, the rasterizing of data has been delayed until the moment prior to Plate or Cylinder exposure. It is at this point that these often complex vector designs, (which have been further complicated by the addition of Vector trapping and their multiplication on layout sheets) are saved as final PDF or Postscript files, RIPped, calibrated, screened and exposed. It is only at this RIPping point that it will be discovered as to whether all is correct. For it is not until the final file has been processed (changed from its Vector format to an exposable Raster format) that each individual element can be analyzed by the interpreter engine which will decide if a job has been correctly prepared.

But why wait until the last moment to discover if a file has been prepared correctly? Why wait for a complex final layout file to be Ripped before discovering that an element has moved, a trap has not been applied, a font is missing, a color is incorrect or an image is missing? - If the answer to the above is because that's how we work around here, then it's time for change, a change in working practice. The future lies in a raster approach to Prepress, for by rasterizing a file once it has been deemed graphically

correct, the operator is released from a complex vector environment into a workspace where simplicity, efficiency, speed and data integrity is the norm.

Myths and realities.

The argument for rasterizing a file at this early stage is compelling, but first, there is a need to dispel some "Raster myths" using the MaxPro suite of applications as reference:

Myth No.1 - Raster files are too large to work with.

Maybe 10 years ago, not so today. A MaxPro file consists of Linework, Contone and Hi Res Contone elements combined in a single document. It includes two images of different resolutions: medium resolution for imagery and high resolution for graphics and texts. The compression algorithms applied to these elements make for small file sizes.

Myth 2 - Raster files are too slow to work with.

Are you kidding? - when was the last time you sat in front of a screen, waiting for a complex Vector file to render once you had asked the application to do something like zoom in? MaxPro raster files can be opened, edited and closed in a fraction of the time it takes in a Vector application.

Myth 3 - But when I open a large raster file in Photoshop, it can take a long time to open, process, save... etc. - so the same must be said for MaxPro raster files?

Speed is related to the file format and the architecture of the program concerned. Photoshop is a professional image editing application, not suited to handling high resolution Line art and graphics. MaxPro is a professional Prepress system, designed to quickly and easily carry out technical procedures such as trapping, color mapping, creation of technical plates and the generation of final layout files.

The case for Raster vs Vector

As soon as a file is RIPped, it is immediately apparent as to whether the original design has been honoured by the interpreter engine. Being able to accurately see, to know that the elements have been interpreted correctly at this early stage takes the element of the unknown out of the whole Technical task - Using MaxPro, operators are in a true WYSIWYG (What You See Is What You Get) environment - not so in a Vector environment. Secondly, the process of trapping MaxPro rasterized files bears little resemblance to the entanglement of objects found in a Vector application. Since MaxPro operates in a color specific environment as opposed to the vector, object dominant environment, historically time consuming tasks such as trapping, even intricate traps in transparent, vignette or contone areas, are performed quickly and effortlessly.

The creation of MaxPro Raster files directly after the design process brings additional benefits. The remapping of inks, such as replacing a process colour with Custom, Spot or Pantone does not require the same degree of effort as if when working with an array of Vector based objects. From a final layout perspective, it is often necessary to step and repeat a design as determined by the converter. CAD layouts can be complicated with multiple repeats necessary. In a vector based workflow, this often equates to a large, complex final file: a 1up file may already be full of images, vignettes and transparent effects - when it is repeated for example 10 times across a layout, the file size and complexity is multiplied by the same amount. The corresponding final layout file can be large and process intensive.

But in a MaxPro Raster environment, the issue of having a large output file which has been repeated on a sheet multiple times does not exist. The file is already Rasterized at the beginning of the process. This means that the corresponding layout, irrespective of the amount of repeats made on a sheet is small in terms of file size. An additional benefit gained from working with a rasterized file, is that there is no lengthy processing or interpretation required at the time of output to plate or cylinder. The output RIP simply applies the calibration curve and screening, leaving the file ready for output to plate or exposure to cylinder: a significant time saving factor.

For the future, consider the digital printing devices, the inkjet label printers which are beginning to become commonplace. Since the final file format required to supply information to these digital devices is raster, the benefits of working in a MaxPro format is apparent: for all the reasons previously cited, not to mention the speed of data transfer.

Lastly, from a point of view of security and data integrity, if a file is rastered at the beginning of the Technical process, the data is guaranteed. If the information on screen is correct, it can be guaranteed to be correct on proof, plate and press.

The economic challenges are all too apparent as we enter 2009. Businesses looking for cost savings without sacrificing quality need look no further than their Prepress and the working practices within - MaxPro is a faster and more efficient way of working.

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