

## INDUSTRY SECTOR

Digital printing of large format graphics, textiles, ceramics and labels. Production of film separations for offset print via digital inkjet printer.

## ISSUE

Flexible and extensible interpreter required to allow diversification of RIP product line to address a variety of digital print applications beyond conventional large format graphics production. Configurability and conformance to PostScript® and PDF standards crucial.

## GLOBAL GRAPHICS'

### PRODUCT

Jaws PostScript and PDF interpreter.

## SOLUTION

Wasatch has used Jaws as the basis for a range of SoftRIP variants to exploit niche market opportunities in textile, newspaper production and label printing in addition to display graphics and signage.

## WASATCH The big niche player

Newcomers to the large format printing (LFP) arena might be surprised to hear Mike Ware, founder and CEO of Wasatch Computer Technology, makers of the widely-used Wasatch SoftRIP, say, “the problem of printing high quality color managed images was solved in 1998,” but long-time players in this sector would agree that this is a mature and highly competitive market. In such an environment, equipment and software suppliers naturally seek differentiation for their products, and in Wasatch’s case this has meant pursuing specialty applications outside the normal run of LFP production.

“This is a saturated business,” says Ware. “Software doesn’t wear out, there’s no consumable, so we have moved to addressing particular imaging problems; regular large format printing applications now accounts for only about one-third of our business.”

The specific imaging problems that Wasatch has been addressing range from textile printing to high-speed label production and the production of film separation sets for offset printing of

newspapers, in which inkjet printers are in effect turned into imagesetters. Mike Ware says that SoftRIP is known as ‘the textile RIP’ in the digitally-imaged fabrics sector and that the film separations from inkjets has also been an especially successful application.

“ There is real merit to Jaws, it creates a smooth interface between the PostScript language and the underlying code ”

Mike Ware



Jaws makes it easy to address many niche markets.

**APPLICATIONS**

Wasatch SoftRIP supports hundreds of large format printer models from around 70 different manufacturers; smaller format printers and a wide range of cutters are also supported. New models are continually being added to the list.



“Jaws® makes it easy to address all these different ‘niche’ markets – which turn out to dwarf the large-format one,” he comments, citing the example of a customer in Brazil who runs a fleet of 20 dye- sublimation printers, driven by around 10 RIPs to produce custom-printed sports apparel in industrial quantities. “People think textile printing is a cottage industry but these guys are spending tens of millions of dollars a year just on ink,” he says.

Since introducing SoftRIP, Kaltim Post Group has increased production and made their workflow more efficient.



necessarily easy – if you go there, we assume you are an expert. We don’t do wizard-based profiling. It might lose us some sales, but it allows us to dominate certain sectors.”

While SoftRIP may be the ‘color expert’s choice’, once profiling is complete, image configuration settings that combine the ICC profiles with other print settings can be saved for quick selection by non-expert users.

**The Jaws of victory**

The underlying technology that has made possible this wide diversification of applications for Wasatch is Global Graphics’ Jaws PDF and PostScript® RIP SDK. With over five million installations around the world, Jaws features an open and extensible architecture that allows it to be used as the foundation for a wide range of applications, covering different imaging technologies and performance requirements, with excellent compliance to PostScript and PDF standards.

To the Jaws kernel Wasatch adds sophisticated ICC-based color management. “We keep the SoftRIP interface simple, clean and slick for everyday use,” explains Ware, “but the color profiling is designed to be powerful and so not

Another critical capability that Wasatch builds around Jaws is a range of halftoning (screening) capabilities to support a variety of output imaging processes. A key attribute of Jaws that the Wasatch development team has found to be both unique and invaluable is the 16-bit rendering pipeline

**Deep impact**

“Jaws lets us have a 16-bit deep rendering workflow all the way through,” says Ware. “Adobe can’t do this and nor can most of the other interpreter vendors; some claim to have 16-bit rendering because they’ve got it at one point or another in the pipeline, but not all the way through.” The benefit of this deep rendering



workflow is that with significantly more tonal levels available than with 8-bit, much smoother gradients can be imaged when driving output devices or print processes that are highly non-linear in their tonal response.

The problem of high or rapidly varying levels of dot gain occurs in textile printing via dye sublimation processes as well as in newspaper printing, where both the contact printing process from film to plate and the subsequent behavior of ink on newsprint can introduce non-linear changes in dot gain.

At an Italian manufacturer of fine quality textiles where Wasatch SoftRIP TX is used the customer confirms that they can achieve perfect gradients even over large areas of fabric; efficient and seamless pattern repeating within the RIP is another feature that they have found to be very beneficial.

Mike Ware points out that Wasatch SoftRIPs are also being used in ceramic printing applications, another application that the Jaws deep rendering capability makes possible – “Jaws lets us get in and do cool things,” says Ware, explaining, “The 16-bit pipeline makes it easy to adapt the RIPs for these markets – resellers and end-users can do it for themselves.”

### Smooth operator

“There is real merit to Jaws, it creates a smooth interface between the PostScript language and the underlying code,” Ware continues. The interpreter’s flexibility has also enabled Wasatch to achieve success in variable data printing for narrow format continuousfeed digital label production. “Jaws lets us vary or redefine operators for PostScript or PDF,” he explains, “so that an extraordinarily fast Memjet printer can be run at full rated speed,

with variable color data on each label. Jaws gives us considerable advantages, it lets us do things other people just can’t do.”

Wasatch has been working with the recently-introduced Jaws version 3.0. For Mike Ware, one of the biggest benefits are improved documentation and the reassurance that the technology is actively being supported and developed.

“The quality of documentation can make the difference between assigning a job to a \$200,000 per year programmer or a \$50,000 per year one,” comments Ware. “The development team is live and healthy and are impressing me as heirs to the product.”





In terms of ongoing support, Ware is also emphatic about having access to ‘real code writers’ at Global Graphics. “Not having a mediated interaction dwarfs everything else,” he enthuses, adding “it’s worth waiting for them to get back to you if they’re busy.”

The regular update program from Global Graphics, who produce maintenance releases of the Jaws interpreter between eight and 10 times a year, is also valued at Wasatch:

“The fact that we can get a problem fixed within a month or two is a big plus for the Jaws team. We do dated ‘engineering releases’ every two to eight weeks that address all the little things that come up in printer firmware, as well as any needed patches to the Jaws engine,” confirms Ware.

Wasatch also provide feedback to the Jaws team at Global Graphics, though Ware admits that the former perhaps don’t have time to do as much of that as the latter would like, but it’s for all the right reasons.

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