

Packaging Workflow Moves to the Mainstream

BY RON ROSZKIEWICZ

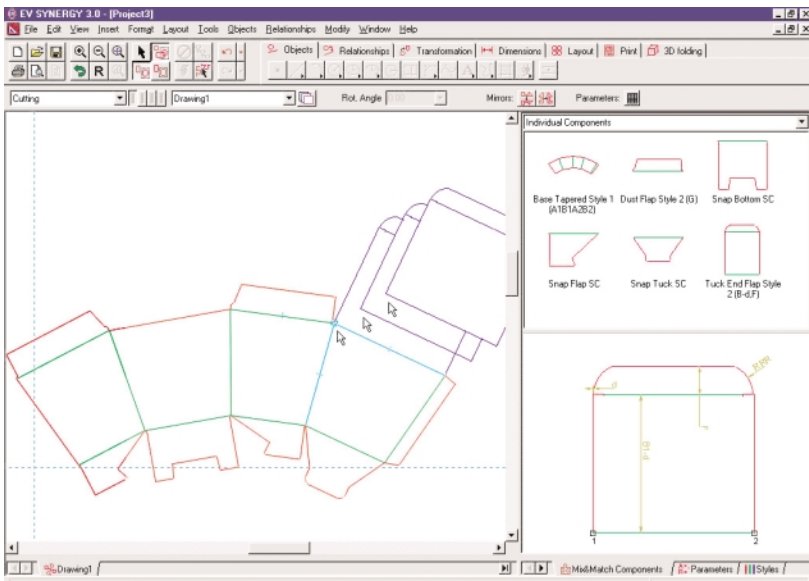
In the past, many prepress vendors treated packaging as a niche market, attempting to shoehorn packaging problems into commercial printing solutions. The situation has changed.

Although most segments of the prepress and publishing industry reported depressed activity at Print '01, the packaging groups in large and small companies seem positively buoyant this year. This market segment seems to be holding its own, and some printers confided that a turnaround has occurred over recent months. Major product introductions from CreoScitex and Artwork Systems have indicated considerable R&D investment, suggesting that these vendors have confidence in this market's potential. Smaller players such as EngView and ScenicSoft also have lately brought innovative new products to the field. It seems to us that, regardless of market conditions in general, in the packaging business, the missing pieces in workflow management automation are being fitted.

EngView adds Synergy

EngView Systems (www.engview.com), established in 1999, is a Canadian corporation with a research and development office located at the SIRMA Group research and development center in Sofia, Bulgaria. The core technology in EngView's software has been in development since 1996.

Leveraging Synergy?
Intended as an extension of existing CAD software, EV Synergy allows users to drag and drop packaging components into an overall design.



The latest product, EV Synergy, is an artificial-intelligence-based drawing engine for package components or complete package designs. The AI is implemented as a smart snap-to-lines function and as angle or line-length memory during manual package-component alteration. A library of 300 parametric components is supplied for use as finished design elements or as starting points for new designs. The library is in compliance with ECMA and FEFCO corrugated standards for inside and outside dimensioning and folding-carton standards for output compatibility. Images can be exported to design or CAD systems as DXF, DDS, CF2 and EPS files. These are compatible with ArtiosCAD and other Barco systems, Impact from Arden Software and, of course, EngView System's own EV Package Designer.

EV Package Designer is a one-up application that combines components designed in EV Synergy (or selected from its library of 300 parametric designs) with finished artwork imported from other desktop applications. The user interface is consistent with that of EV Synergy and uses a drag-and-drop methodology to combine dies with finished art. The completed one-up design can be laid out manually, on an appropriate sheet size, or automatically via the step & repeat Layout Wizard for maximum media utilization. Manual versus automatic layouts are reflected in a spreadsheet view with job cost estimates. Any subsequent layout alterations are reflected in the cost estimates. (The Cost Estimating Module is available as a stand-alone product.) Package Designer imports and exports DXF, DDS, CFF2 and EPS.

The 3D Presenter Module combines die and art data in a three-dimensional presentation that features interactive folding and unfolding and a special transparent internal-design structure view. The three-dimensional data files are small Virtual Reality Markup Language (VRML) files that can be sent through e-mail and opened in any browser equipped with a VRML viewer plug-in. A VRML plug-in for Windows and Macintosh (including Mac OS X) is available from Cortona (www.parallelgraphics.com/products/cortona), free of charge. The 3D Presenter Module can be used with one-up designs from any CAD

system or with JPEG, BMP, GIF or other raster image formats.

The Samplmaking CAM Module defines optimized tool-path directions, though the paths can be edited if you desire. It is a fully configurable post-processor for driving any numerically controlled machine.

EngView sells its products directly and through a number of packaging or die-making resellers in North America. It is seeking to expand its sales worldwide. The company has also formed a strategic relationship with Heidelberg (*see below*).

Artwork Systems updates ArtPro

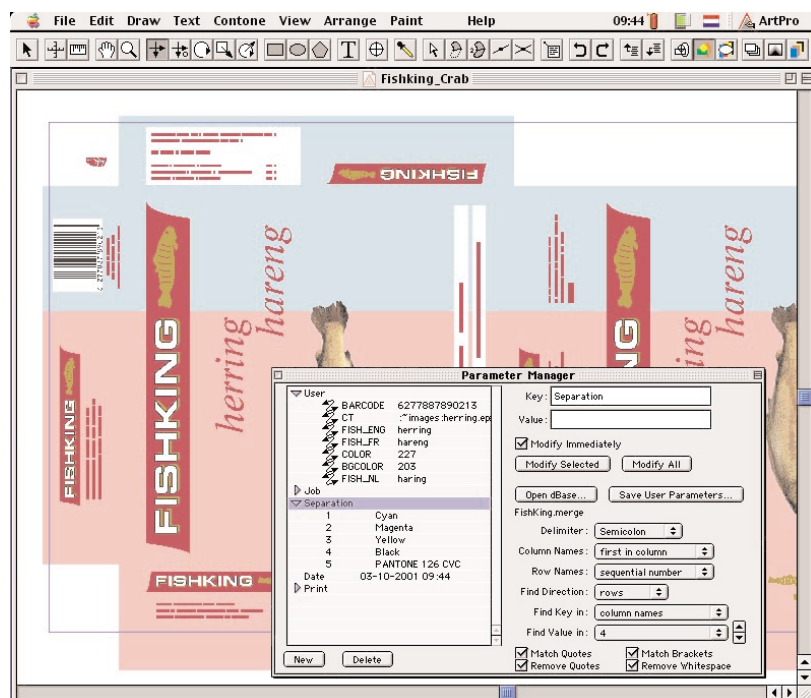
Artwork Systems (www.pro.com) presented three new packaging-specific ArtPro modules at Print '01: PowerLock for rights management, ArtLink for versioning and PowerOptimizer for laying out labels.

ArtPro's PowerLock supports the growing field of digital rights management through a novel and easy-to-use screening technology and a film-based counterfeit viewer that enables counterfeit packages to be detected and verified in the marketplace. The screening technology targets an object, such as a logo, image or vignette, in a finished design as the site for embedded screening. Invisible to a consumer, the micro-type screening can be viewed only through a transparent film overlay used as an authenticity checker. Screens for PowerLock can be generated by any raster image processor (RIP) or by Artwork's own FlexoCal technology for Windows and Macintosh (including Mac OS X).

ArtPro's ArtLink is a database-linked productivity tool for automating the versioning and batch changes to finished package designs. The components of the artwork mirror component descriptions in a database. Alterations made to the database are reflected in the artwork and vice versa. Flexibility is built into this method of artwork control, including color, element positions and text alterations. The company uses a database from dBASE Inc. and runs on Windows and Macintosh (including Mac OS X).

ArtPro's PowerOptimizer is designed to calculate the layout of labels on paper, film or plate. It considers all design parameters, such as name, color, size, bleed, run, cutting direction, cutting size and maximum paper size, to automatically deliver an optimum layout. All labels on a layout also can be manually altered and repositioned. PowerOptimizer can be integrated as an option in ArtPro's PowerLayout module or on an ArtPro station with the PowerLayout module installed. At the front end, this module is a valuable job-planning and -costing tool for the account executive and, at the back end, it serves as a planning tool for production operators who are preparing sheets for output.

Nexus. Artwork Systems also promoted its Nexus product line for packaging customers. This combines



several modules, including NexusManager, a workflow manager; NexusEdit, an editor for changing text and images (CT/LW) in run-length-coded data; and NexusWebWay, an interactive communications tool that uses the Internet.

NexusWebWay is the new element of the workflow solution. This new tool is a browser-based environment for submitting jobs, preflighting files, approving jobs and downloading PDF files for remote proofing.

In addition to the new Nexus workflow products, Artwork Systems formally presented its Nexus RIP module, FlexoCal. The goal of package printers is to reflect accurately the color and texture of the goods being sold. Unfortunately, flexographic cylinders have mechanical limitations that, in the past, have prevented them from achieving the same level of quality as offset or gravure printing. Now, according to the company, non-linear RIP calibration breakthroughs in the FlexoCal module, combined with other Artwork Systems technologies, make it possible for flexography to achieve the print quality of offset or gravure.

ScenicSoft: Pandora turns Pro

ScenicSoft's Pandora has been in the market for about a year (*see Vol. 1, No. 10*). The company demonstrated some new developments. Version 1.1 resolves compatibility issues with CreoScitex's Prinergy Powerpack, IMPact, Direct and Connect. Version 1.2, expected in October, will add compatibility with Brisque Pack. Version 1.2 will also provide full control over nesting and will offer a new bleed-edit tool to specify complex bleed paths.

Scheduled for year-end release is Pandora version 1.5, which will represent a major change in marketing

ArtLink. This tool provides detailed, database-managed control over multiple resources and parameters used in a packaging job.

Amgraf Shows LogoDots

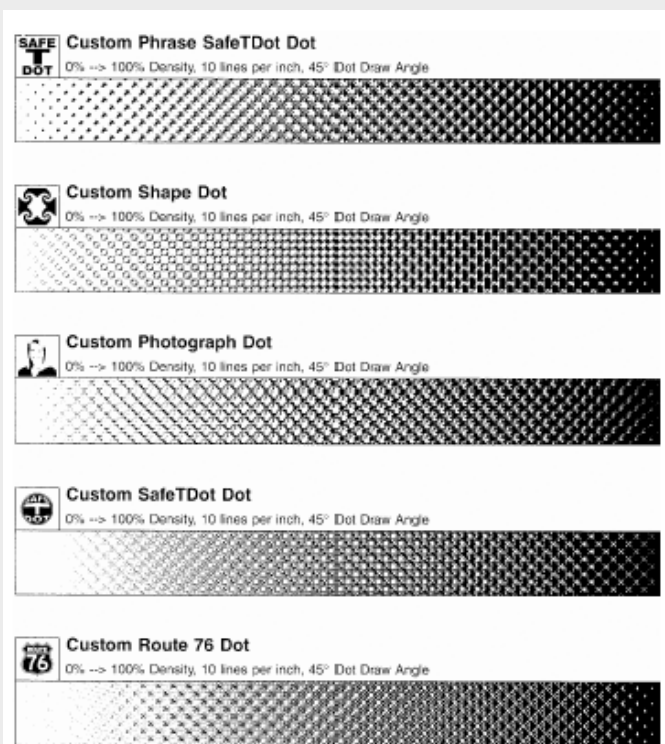
One of the early pioneers of desktop publishing, Amgraf now specializes in forms, labels and security printing: the making of documents or packages that need to be counterfeit-proof. It has invented an interesting technique called LogoDot that creates "halftone dot" patterns that are hard to scan, copy or forge.

The process starts with any grayscale image up to 256x256 pixels. From the image, Amgraf's software calculates a series of threshold maps, which then are sent to the RIP as a replacement for PostScript's built-in halftone-spot function. Tinted areas of the document, such as backgrounds or signature blocks, will then be rendered using tiny images instead of traditional square, round or elliptical dots.

LogoDots are hard to copy because they contain tiny details that contribute to the overall gray value of the page, but are easily lost when scanned at normal copier or graphic-arts resolutions. This has two consequences. First, in an original document, the LogoDots (which are visible, though just barely, to the naked eye) look sharply defined, while in a copy they are blurry.

Second, the reproduced LogoDots will have a somewhat different gray value. It is therefore possible to print different areas of the document with different LogoDot images that have the same average gray value. The original document will thus appear almost uniform. But the images will degrade differently when copied, so a copy will clearly show two areas of different gray value.

Amgraf charges \$10,000 plus a 2.5 percent royalty for use of its patents in this area. Owners of Amgraf's Mecca 2000 publishing system can buy the DotMaker plug-in, which implements the LogoDot technology, for \$2,500. **TSR**



Amgraf's LogoDots. Printed at just-barely visible scale, these custom dot patterns make forgery easier to detect. Any image can be used as the seed for the pattern.

strategy. The product will be divided into two levels: Pandora Plus and Pandora Pro. The former is essentially the current version 1.2 with some additional enhancements, such as bi-directional support for Portable Job-Ticket Format (PJTF).

Pandora Pro will include automated step & repeat on press sheets and export of the multi-up cutting dies to CFF2 CAD format. A straight-cut auto-fill option, also planned for this release, will offer data export in CIP3 PPF format, to be used with cutting device consoles such as the Polar Compucut. When this optimized layout information is used (via a "ShopMap" software capability within Pandora), manufacturing resources can be planned with cost-effective optimized layouts.

Dalim takes to the Web

Dalim (www.dalim.com) gave little emphasis to packaging products and workflow at Print '01. In fact, it is clear that development on packaging products is at a standstill. The company's focus quite clearly is on commercial printing. That said, the new Ficelle Web-based tracking and job management application, linked with Dalim's Twist database toolset, is in many ways similar to the Internet-portal and job-management applications from Artwork Systems and CreoScitex used by packaging printers. Dalim licensed

Ficelle from a French printer that developed it to communicate with its customers. (We first saw Ficelle at Drupa, see *The Seybold Report on Publishing Systems, Vol. 29, No. 17*.)

Greater emphasis on PDF and PDF-editing tools was evident with versions 4.5 of Dalim Twist and Dalim Litho, currently in late beta testing. Viewed as a "normalizing" tool to clean up erroneous data in PDF files and thus yield predictable output, the PDF/P2 file is PDF 1.3-compatible and small enough to ease printing and viewing. Support is also provided for PDF/X-1. The goal, of course, is to distill predictable files for Dalim workflows, but it is also to provide clean exportable files to work with other PDF-based workflows from other vendors.

Dalim also announced its adoption of Linux as a supported platform for the Swing workflow tools. This rounds out Dalim's comprehensive support for all platforms: Mac, Windows, Irix, Solaris and Linux.

Heidelberg's MetaDimension

Heidelberg (www.heidelberg.com) presented its new RIP and workflow solution, MetaDimension. A modular system, MetaDimension can include OPI, in-RIP trapping, color management and screening and can adapt to drive a number of Heidelberg output and proofing

devices. In use at more than 180 sites, it was released for film output systems in June. The plate-output system will be released in October.

Strictly speaking, MetaDimension is not a packaging application. However, it is the core of the new Heidelberg workflow system and is designed to work with Heidelberg's other commercial applications. A modular system, it is also designed to work with packaging products from other vendors. For example, while the standard MetaDimension in-RIP trapping might satisfy label printers, most packaging printers will require Heidelberg's SuperTrap Plus. MetaDimension can also work with Prinergy Powerpack, as well as with CIP3 and CFF2 files.

Signapack was exhibited as the key step & repeat application in the Heidelberg packaging workflow. It's a true, full-featured step & repeat tool with decent control over marks and complete control over package placement and clipping paths. Nested package placement can be manually or automatically tweaked as individually placed packages.

Filling out Heidelberg's packaging workflow is adoption of the EngView EV Synergy suite of package design and reporting tools, the EngView Package Designer, the PitStop Editor in Prinergy for PDF editing, and the SuperTrap Plus Adobe Acrobat plug-in.

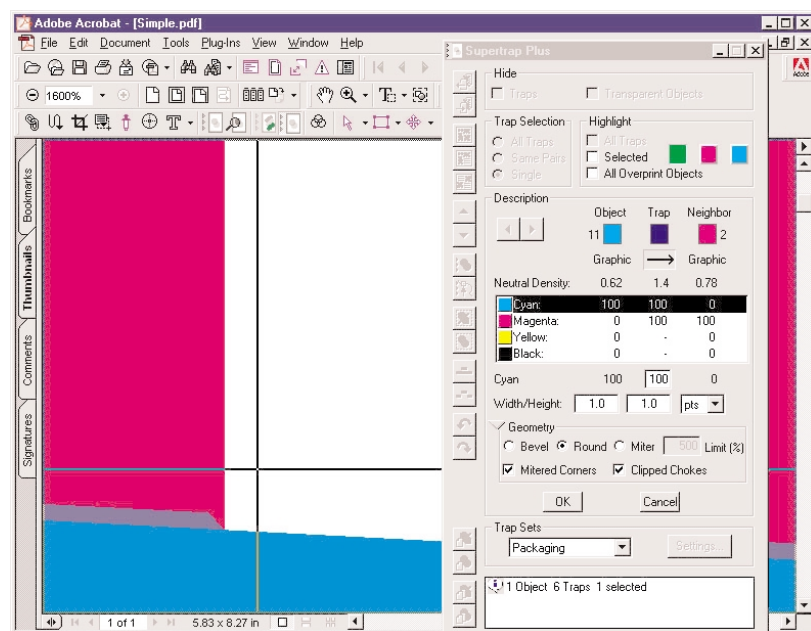
CreoScitex's Powerpack

For many visitors, Print '01 was the first opportunity to see the new Prinergy Powerpack suite of products from CreoScitex, which included a packaging-specific implementation of InSite, the company's online submission and collaboration environment.

Both Powerpack and InSite were covered extensively in *The Seybold Report* (see Vol. 1, No. 10 and Vol. 1, No. 3), and nothing significant has been added. However, more is coming to light about the new Brisque Pack product. Brisque Pack is designed to enable existing Brisque users to add packaging capabilities to their systems. For smaller label printers, Brisque Pack features Preview Layout, a step & repeat function that allows stepping, nesting, staggering and the addition of plate or one-up marks.

Another feature, Low Resolution Stepping (LRS) uses a low-resolution EPS file that can be linked to other applications, such as Illustrator, FreeHand or ArtPro, to allow these applications to be used for stepping. The linked file is stepped and replaced with the high-resolution file during output from the Brisque.

In addition, the system utilizes the Packaging Control File (PCF) file format, which is generated by



several major packaging workflows from Barco, Artwork Systems, ScenicSoft or CreoScitex. CreoScitex uses StepOne step & repeat software to write the PCF file out. Using PCF is an efficient way to include the die information and the link to the high-resolution file residing on the Brisque. The objective in using linked files is to reduce RIP time, as well as the time during which the desktop machine is tied up in printing to an output device.

Conclusion

In the past, prepress vendors—with the exception of Barco—have treated packaging as a niche market and have attempted to shoehorn all packaging problems into their existing commercial-printing systems. Now the situation has changed. Packaging-specific products and integration into general-purpose workflow solutions are coming from many prepress vendors. We are now seeing a broad range of products that are addressing the unique requirements of the packaging industry with innovative, standards-based solutions. Most categories were covered, including digital rights management, smart CAD systems on the desktop, configurable Internet communications tools and database-driven workflow and content management. Although “more choice is good for consumers” may be an over-used maxim in other industries, it isn't so in packaging. Recent development efforts may push others into considering the huge packaging industry as worthy of targeted investment.

TSR

Trapping detail. The Geometry controls in SuperTrap Plus are designed for the peculiar needs of the flexographic environment. Specific trapping preferences can be saved as “Sets” to be reused for other jobs.