

THE SEYBOLD

REPORT

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The Art of the Magazine: Folio and Spectrum

By John Parsons

At industry events in New York and Tucson, magazine and advertising professionals celebrated their interrelated disciplines and looked for better ways to advance their medium. Under extreme pressure from online media and other rivals, magazines are poised for a major transformation. Page 2

IfraExpo Meets Sigmund Freud

By Laurel Brunner

Over the past few years a great many people got caught up in the hysteria, foolishly overlooking the resilience of newspaper publishers and the loyalty of the communities they serve. The business models of newspapers have undergone major surgery as publishers tackle the new opportunities technology offers. Such courage and foresight are why newspapers are far from over. At this year's IfraExpo in Vienna, there was abundant evidence of how the industry has come to terms with the technology and its implementation. Page 6

Integrating Soft-proofing into the Quality Color Workflow

By Ron Roszkiewicz

Several vendors, including Kodak, Dalim, GMG GmbH & Co KG and CGS are developing soft-proofing products that save publishers time and money. But we think that the most versatile soft-proofing solution comes from a smaller company, ICS, with its Remote Director. Page 11

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Bob Sacks consistently challenges past assumptions and his measured skepticism, combined with his vast expertise in media of all kinds, make him a valuable voice in the publishing industry. We asked Sacks about the future of publishing as we know it.

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Nuqleo, the new incarnation of GetReady, was on display at Ajax World and Spectrum and will be shown at the Forrester Consumer Marketing Forum in Barcelona in November.

Multicultural Metro Streamlines Processes

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With a global readership of more than 20 million readers, 70% of whom are under 45, Metro International is raising expectations for conventional newspaper publishing.

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Speak Softly: Integrating Soft Proofing into the Quality Color Workflow

By Ron Roszkiewicz

Several vendors, including Kodak, ICS, Dalim and CGS, have developed virtual proofing products that save publishers time and money. Without implying there is an ultimate victor, we examined the system from ICS: Remote Director.

More than 20 years ago, the concept of virtual or soft proofing was recognized as a potential time and cost saver. At that time, a soft proofing system consisted of a very expensive Barco monitor, a 9-track reel or hard copy proof for transporting the image and some form of courier service.

Desktop publishing was in its infancy, color science had not yet been adapted to desktop applications, standards were represented by digital libraries, and high-speed data communications were still relegated to the lab. A Chromalin proof, even though it wasn't an exact facsimile of the eventual press output, created a comfort zone for clients — one that continues to this day. Only in the past 10 years have progressive users and developers begun to stretch every bit of technology that exhibits any potential for viewing, communicating and printing high-quality proofs to match and exceed these concepts from the past.

Building on the Past

Along the way, new technologies appeared and existing technologies evolved. Seminal technologies include press, proof, and display fingerprinting and calibration; dedicated high-speed lines for communication; advances in software-based raster-image processing (RIP) technology; and continuous improvements in desktop inkjet printers. Today, thanks to a convergence of technology, we have all of the pieces we need to build a complete soft proofing system. The result is the end of the early adopter phase of this development and wider adoption. More users exercising the current systems has led to feedback that is more practical and pushes developers to create the next technology wave.

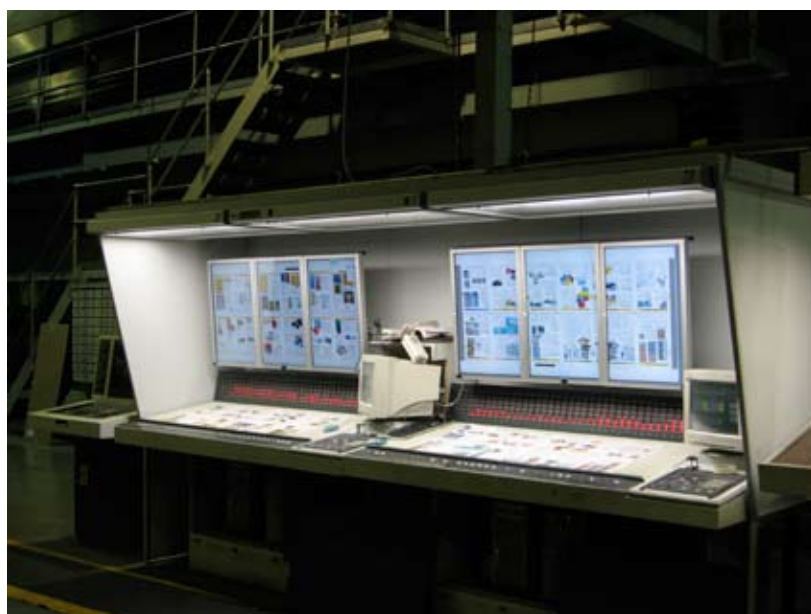
The evolution of soft proofing has been slow by high-technology standards. Numerous attempts along its development timeline have shown it to be a process in search of technology. The current crop of digital proofing solutions mirror many of the technological developments mentioned above. For example, the hard-copy proof once represented by a press proof and Matchprint still exists, but users are just as likely to rely on a local calibrated inkjet since the color and

texture of the intended output substrate can be modeled digitally. Device characterizations that were once done to remote, quirky CRT monitors and presses are now done to desktop displays and inkjet printers. High-speed communications have moved from the expensive leased lines of the past to inexpensive, readily available Internet providers, allowing screen data and interactive group communications to move in real time.

In the highly competitive content-creation business, where image quality and digital integrity are paramount, nothing can compare to a fully digitized process for accessing and managing data. But a purely digital workflow is only an advantage if the color can be counted on as accurate and consistent. In particular, advertising agencies and prepress shops have the most riding on the quality and accuracy of the digital files because their reputation depends on it. Both players are responsible for preserving the brand through the way their creations are represented. Satisfying their high standards has required a lot of research and development.

Most of today's content creation workflow has been standardized and digitized. The adoption of digital asset management systems has brought some disci-

Illus. 1 - Remote Director pressroom installation.



pline to the routing of data. But even with all of these new technological advantages, much of the review and approval process still takes place offline. Hard copies and mockups still rule and data is still shuttled around in e-mail and on disks. This will of course change with time, but today it remains one of the last workflow segments to be streamlined.

Moving Beyond Early Adoption

While most of the technological obstacles limiting the progress of soft-proofing development are history, a new set of issues has come under consideration that relates to soft proofing's place in the larger supply chain. Content creation and printing are all part of a manufacturing process. As this process becomes completely digitized, it fits very nicely into what has been known as computer integrated manufacturing (CIM).

A number of initiatives aim to move to a more efficient, controlled digital workflow farther upstream at the content creation phase of the graphic arts process. This next step views soft proofing as a component in a larger graphic arts workflow and regards interoperability with associated systems as essential to fulfilling the eventual dream of end-to-end computer integrated manufacturing. To achieve that goal, the architecture on which the systems are built must be constructed in a way that supports interoperability and the integration of new standards.

Each of the players competing in the color management and soft-proofing space has a focus and specialty. Kodak's **Virtual MatchPrint** is an option for its InSite and TeamWorks suites. This is somewhat comparable to Dalim's **Dialogue** soft-proofing application, which can be used as a standalone but is optimized through integration with other Dalim workflow applications. **CGS's** suite of tools is all about the color-managed workflow, supporting hard and soft proofing, ink saving and broader workflow issues such as trapping, OPI, imposition and page pairing. **GMG** does not offer soft proofing, but is focused on creating tools for printers and totally replacing the analog contract proof in multiple print markets, including offset, gravure and flexography. Likewise, **EFI, PerfectProof** and **Compose** also offer hard copy proofing but not soft proofing.

The remainder of this article provides a perspective of the state of soft proofing, using what is arguably the most specialized standalone application on the market. Unlike most other companies, Integrated Color Solutions (ICS, www.icscolor.com) is focused only on representing color on screen. The only project or file management tools in the application are those that are necessary to enable soft-proofing collaboration. Color management is left to standards and profiles. The same holds true of metadata and calibration. ICS engineers built the program on an architecture that allows connectivity to other workflow applications.

We will view ICS's soft proofing system, Remote Director, from the context of several key trends:

collaboration, brand integrity and project management. These trends reflect important areas to advertising agencies that collaborate daily with freelancers, consumer product companies and prepress and print providers. Being able to discuss their work graphically has led to years of reliance on proofs and mockups. All three of these trends overlap to some extent and each represents areas of development that are evolving independently.

Brand integrity involves security in addition to some level of adherence to the accepted stages of content lifecycle: design, management, distribution and archiving. Workflow requires that systems talk to other systems as transparently as Remote Director's transaction server interoperates with Xinet's digital

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asset management system. Remote Director, either through built-in functionality or support for other systems and enhancements, has the architecture to evolve and adapt as new workflow control and integration opportunities arise.

Soft Proofing Trends: Today and Tomorrow

The review and approval process is not limited to any one department. Stakeholders can include the executive, marketing and sales departments, advertising agencies and any of the trades that feed content creation and output. Soft proofing has moved beyond the early adopter stage, so we can now accept that the technology can provide an ROI and can meet or exceed the expectations of users.

The simplest criteria for judging soft proofing is on the basis of color quality and ease of use. This is not unreasonable since for many years achieving consistent color quality was difficult and expensive. Judging it in this way, however, would disregard the reality that soft proofing, after meeting users' color quality expectations, is now expected to meet a new set of collaboration, workflow and project management criteria.

Regardless of how comprehensive they are, applications can no longer exist in a vacuum, especially one where critical project decisions are made. In light of this new workflow reality, Remote Director is well positioned as an ideal integration component. We will examine ICS's Remote Director as a collaborative tool, as a workflow component and as a project management enabler.

Collaboration: Rise of the Virtual Workgroup

Over the past 10 years the reality of virtual workgroups has eclipsed the dream of telecommuting as the office

of the future. It was revolutionary 10 years ago when Chiat Day in Los Angeles sent everyone home to work and only set aside limited office space for occasional project and customer meetings. Rather than a strict definition, telecommuting has become a fluid one with knowledge workers. Once again, we can thank the Internet for expanding this new reality beyond the category of telephone-bound sales, telemarketing and customer service workers.

The graphic arts workflow is a case of shifting collaborations and the hard-copy proof is the token of this shifting collaboration. Whether the proof is used as part of an agency client pitch, a set of design variations or an example of the final output from film, customers and designers have come to expect far more precision and overall finish than in the past. Although some design operations might limit their use of soft-proofing to content creation, it truly is an end-to-end enabling tool. The opportunities for review and approvals of soft proofs can begin at the first customer service contact and continue all the way through to final press approvals. Pulling press proofs or creating Chromalin prints might never be eliminated, but as soft-proofing technology becomes more commonplace it will eventually lead to a shift in comfort zones from the hard copy to the screen proof.

The whole purpose of soft proofing is communication — between an ad agency and line managers at a consumer product company or between an art director and a prepress operator making film. Whereas Chromalins and mockups served in the past as the physical example for marking up the design with a grease pen, a view of the design on the computer screen, modeled on a facsimile substrate and color model, has become the new screen “print” for adding digital notes and annotations. This is especially valuable when a remote prepress shop or client is too far away to invite to a meeting.

Review and approval cycles. Pulling together a virtual meeting is at least as difficult as arranging a physical one. Team members must be notified when a decision must be made and some might have to be notified immediately when significant milestones occur. As part of Remote Director’s file and project management function, the Email Notification parameter for an invited participant will trigger an action requiring the member’s response and involvement. The e-mail, which includes the proof name, description, instructions, etc., tells the recipient which Customer and Job folder the Proof resides in. A proof:// URL sent in the e-mail automatically displays the proof when clicked. The digital options are similar to physical ones: A new proof is created and seats invited, a new seat is invited to join an existing proof and an image is signed off by all seats that have been designated with a signoff requirement. For busy art directors, being notified on their Blackberry of an action they need to take might be the only way to grab their attention.

Managing the group and the process. Remote Director is a client/server application. Using a server

to feed software clients brings a level of security and reliability to the process. In this case a server routes the transactions between meeting members and holds

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permissions data for such functions as digital signoffs and access to original data. This means that server setup and maintenance are not the responsibility of the ad agency or prepress shop. Managing the proof files and the guests who view them is more basic and is an extension of the ongoing management of the customer relationship.

Machine-to-machine communications. To make the color science work and to meet the expectations of the participants, information about the participants, their equipment, the files being viewed and previous sessions must be communicated to the administrator or the members in the team. First of all, there are color standards such as SWOP and GRACoL that form the basis of color representation on screen and on press. These values must be transformed into dots and screen pixels, depending on the output.

The only way to transform color information into dots and pixels is through the use of a color engine. Remote Director uses a combination of an ICC engine, such as ColorSync, and ICS’s own spectral blending engine for spot colors and specialty coatings for this task. This combination has certain advantages in the types of output data it can print to screen, giving Remote Director a full range of modeling from RGB, LAB, CMYK, spot colors and separations. It provides for the dynamic use of ICC profiles and N-channel technology in a 10-bit environment. Even the color and texture of the substrate can be modeled on screen. Advanced views are possible, showing custom colors and spectral blending (colors over colors).

One of the most important considerations with soft proofing is that the color remains consistent between and during the session. To maintain this consistency, Remote Director continuously checks each participant’s display and adjusts it if necessary using ICS Remote Verification patented technology. With supported displays, ICS uses high-bit DDC/CI (display data channel/command interface) for automated display calibration.

A setup process must be used to prepare a system and a monitor for soft proofing. With soft proofing, the gamma is critical and it is in this area that ICS has patented L*Calibration and Remote Verification for unsurpassed shadow detail.

For ad agencies and prepress shops, soft proofing represents an opportunity to supply clients with a new service. Such value-added services as training, system calibration support and new hard-copy proof products can strengthen a service provider relationship.

Soft Proofing as a Workflow Component

Every graphic arts workflow will include numerous review and approval cycles, which are critical to the flow of timely information to all of the stakeholders. The need for review can and will take place at different points in the content creation process. For the retouching artist, it might happen progressively at each iteration. For use as a remote tool for pitching ideas, it can occur even before the job is taken on. In each of these cases, quality counts. Quality is one of the key motivating factors users mention for adopting soft proofing. In many cases virtual proofs are not just for content and “good enough” color is not good enough. In magazine and advertising work, clients expect to see close to final-output quality early in the design process. In designer-to-prepress communications it either represents the output or it doesn’t; close enough doesn’t matter.

The soft-proofing process should fit into the workflow seamlessly and in the best cases should seem like an extension of whatever application the user is involved with. Remote Director is too comprehensive to act like a simple plug-in. However, through integration it can act as an extension of an application, digital asset management system and content management system.

Ease of use is also critical to the success of the process. Not all users can be expected to understand the technology or to be proficient in it if they only use it occasionally. The success of any project should not hinge on the lack of one too few approvals. In the case of sophisticated software such as Remote Director, this means that the information must be available in different forms for different levels of users, with automated ways to mitigate problems as they arise.

Control over how the system is used is done through an Admin function and software manages the output of displays by continuously checking to see that the displays the participants are using are still properly calibrated. Another automated feature utilizes “hot folders” with assigned trigger events to transform or route files. For example, after a proof has been created, a proof “hot folder” can be created as a way for image files to be automatically added to the proof. Alternatively, another set of rules could point to a RIP and output tiffs as part of the overall workflow. Such semi-automated functionality further relieves creative departments of having to go outside their skill sets and add IT professionals to manage an infrastructure, assets and the overall process.

Soft Proofing as a Good Workflow Citizen

Interoperability is now a key to successful digital workflows, which often requires that the application

or solution provide either compliance with standards that enable interoperability or an application-programming interface (API) to allow hooking into a host application. ICS provides both, and its customizable API has already been successfully integrated into Xinet’s

Files that are approved or transformed in some way can be noted as such with metadata, which can be used for searching on the files or as triggers for downstream actions.

WebNative Portal, Artworks Systems’ Nexus, Dalim’s Mistral and Wave’s Media Bank, as well as customers’ in-house custom solutions. Plug-in integration is also available into Gradual’s PowerSwitch workflow automation systems. According to ICS, several other integrations to file-transfer solutions and DAMs are currently in development in addition to its OEM partners, Vio, Adstream, Dev Zero G and CertiFyle.

Project Management

Remote Director includes a built-in *project management* scheme that works in conjunction with and not instead of other third-party publishing servers, DAM or CMS systems or databases. It guides the user through the creation of file cabinet folders step by step with the help of a wizard. True workflow project management systems are not simple object storage any more. In the case of Remote Director, the associated notes, revisions and sign-offs related to the proof are stored along with it. When it comes time to archive the proof, Remote Director makes a compressed file for storage that includes profiles, color parameters and annotations.

Adding the metadata that describes the proof viewing conditions is a new development in Remote Director. Metadata that is added to source PDF files are available to other applications or digital asset management systems that can read this data and add it to the digital record of the file. This is an extremely important development in terms of project management because files that are approved or transformed in some way can be noted as such with metadata, which can be used for searching on the files or as triggers for downstream actions.

Focus on Output, Screen and Press

Remote Director is designed for critical color evaluation of images on-screen. Beyond system calibration, the presence of paper white within the field of view is one of the most important factors in displaying an image on a monitor so that it accurately represents printed output. The human eye is extremely dynamic and will continually adjust to what it is looking at. By surrounding the image with a color- and luminance-corrected simulation of the actual paper white, the eye will keep the proper relative scale for accurate color perception.

Images are made up of at least three or four individual channels, red, green and blue or cyan, magenta, yellow and black. Spot color and mask channels can be part of the image file as well. Being able to isolate and view channel-specific details is often important. The Channels panel within the Remote Director Tools palette allows you to view any combination of these channels at a time.

Remote Director is not only about the numbers. Its Rendering Intent popup provides for subjective evaluations as well as absolute numerical ones. As further evidence of support for subjective evaluation, Remote Director allows for turning on anti-aliasing during the RIPping process. As a result, fonts and image edges are artificially smoothed to give them a more pleasing appearance when RIPping to lower resolutions.

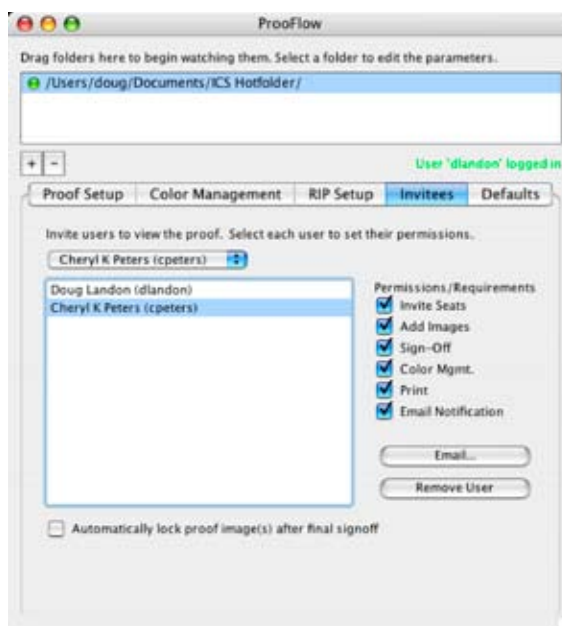
Additional color information is available through views of the monitor's color gamut. Out-of-gamut image colors can be highlighted within the image for a quick visual check. Today's graphics cards all work in 8 bits. This means that only 256 shades of red, green or blue can be displayed on the monitor. Calibrating monitors can reduce this number even more, and this is where problems can be introduced. A standard non-DDC LCD monitor calibrated to D50 can potentially lose 10% or more of its blue channel. The impact of this loss can manifest itself in banding within the fine color gradations. Remote Director addresses this problem by making use of the high-speed computational capabilities in today's graphics card GPUs to virtually expand the bit depth of the graphics card. With Virtual 10-bit processing enabled, Remote Director's image rendering can display 1,024 distinct shades of red, green or blue.

Output for Proof

When Print permission is granted, the Print and Export Active Image to TIFF option under the File menu will be enabled. Selecting Export Active Image to TIFF will download a high-resolution copy of the currently active image and store it to disk. The downloaded TIFF file will be an exact copy, with all channels and color data unchanged. It's an ideal product for local proofing.

The PressOK profile is used in conjunction with the Remote Director's PressOK press-side scanner option. This profile is used to accurately display the scanned press sheet on screen. Selecting the Pressroom Mode checkbox puts Remote Director into press mode, which optimizes the Remote Director GUI for the special needs of press-side proofing.

A prerequisite for Finishing a proof is that all required participant signatures must first be entered. If any of the participant signatures are missing, the Finish Proof selection is grayed out and disabled. The Signoff tab opens up a panel where you can see the signoff status for all of the participants of a proof on an image-by-image basis.



Two Proofflow dialogs used to create automated workflow templates.

Hardware and Standards

Remote Director utilizes the graphics processing unit (GPU) of the built-in display hardware rather than the computer's CPU to compute the complex three-dimensional color modeling. The application maps up to 128 regions on the display for uniformity and considers this when using the high-bit DDC/CI automated calibration. In use, switching between different ICC profiles and N-channel views is dynamic and is based on a 10-bit virtual display. ICS-patented L*Calibration is based on the luminance level on the screen.

The availability of off-the-shelf calibration tools and high-quality monitors at reasonable prices is a distinct advantage to today's soft-proof users. For example, Remote Director supports the GretagMacbeth

EyeOne monitor calibration sensor and the X-Rite DTP94 (also known as the Monaco Optix XR) for the measurement of the display necessary to calibrate and profile the display. Both can be used to accurately measure both cathode ray tube (CRT) and liquid crystal displays (LCDs). The following displays can support SWOP certification conditions: Apple 20-, 23-, 30-inch Cinema Display; Apple G5 iMac, Eizo CG21, CG210/211, CG220/221, LaCie 321 and Quato IntelliProof 213.

ICS actively promotes many of the better-known standards and specifications for color workflow, including the SWOP specification from **IDEAlliance**, for which Remote Director is certified on selected displays. The company is also a member of the **International Color Consortium** (ICC), the **CIP4** organization and the **Ghent PDF Workgroup**.

Conclusions

Built on mature technology and gaining new believers even among the most conservative pressmen, soft proofing is here to stay. Technologically speaking, it is now possible to configure a digital creation-to-output soft proofing workflow that will at least replicate the analog process. Add to that the many possibilities color modeling adds for emulating substrates and viewing conditions and the comparison ends. This is where the power of current soft-proofing systems truly expresses itself. There is no one-size-fits-all in the color world. Color temperatures, models, substrates, profiles of devices and so many more options make up the matrix that must be available for any system to have a future. No one underestimates the responsibility of a signoff. So while automated monitor calibration might become a built-in operating system function, the sophistication of the soft-proofing modeling software will separate the leaders from the also-rans in this critical vertical market.

There is still resistance to replacing the hard-copy proof with virtual proofs upstream. Moving out of the comfort zone that an actual proof provides is certainly a point of contention. Replacing numerous work-in-progress hard proofs with soft proofs is generally accepted as an ROI win by existing users.

For some companies, purchasing some form of soft proofing from a workflow vendor and adding it to an existing workflow is the safest first step. For the broad upstream market without any asset management solution, the ICS approach makes the most sense, since the system can be extended in the future to support other applications.

The fact that quality color is possible is good news for ad agencies and prepress shops, where customer relationships are based on quality and accuracy. Replacing a hard copy with a soft proof is a cultural shock and resistance because of concerns about quality has delayed widespread adoption.

This evolution is similar to the desktop typesetting revolution. Twenty years ago we were introduced to WYSIWYG (what you see is what you get) with type. Today, layout programs have built-in color-management engines so that users can see an approximation of the finished piece while designing and laying it out. The same is true of soft proofs, but since we are asking a virtual proof to act as a contract proof, the stakes are much higher. The science under the hood that defines and manages the onscreen view is considerable and represents a huge investment for companies that specialize in it.

The eventual goal of soft proofing is seamless integration in computer-integrated manufacturing. On the one hand, we have some movement toward the development of inter-application automation via the instructions carried out through JDF or other metadata. This satisfies machine-to-machine communications. But with soft proofing, we have digitization of the most subjective part of the manufacturing process.

With soft proofing, companies can meet some critical review-and-approval criteria, including the ability to reach consensus on the current status of an asset, a documented history of the evolution of the asset, the reduction or elimination of time lag in the review process and better communication between project members, resulting in an overall increase in productivity. These advantages, combined with potential cost reductions from decreased hard copy proofing, make a compelling argument for adding soft proofing to an agency, publishing or prepress workflow. **TSR**

Our Take

This is the first of several reviews about the technologies used by publishers and others for monitor-based proofing and collaboration. ICS and its rivals are well on their way to eliminating one of the last analog bottlenecks — the delivery of physical proofs — in an otherwise digital production universe. A word of caution is in order, however. Virtual proofing, as a director at a major New York magazine publisher recently observed, should not be rocket science. Eventually, he noted, reliable color management and on-screen print predictability

should be achieved through plug-ins for desktop applications, combined with reliable, calibrated, wide-gamut displays. As the price of such displays declines and as color management best practices become integral parts of applications and operating systems, it might no longer be necessary to resort to specialized or proprietary systems, at least for mainstream publishing applications. When that day comes, whether it's in five years or 25, virtual proofing will be the norm, not the expensive exception. — *John Parsons*