

Automating Your Graphics Workflow

How an Integrated Workflow Can Grow Your Business.

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The industry is in the midst of dramatic change. Competition is stiff and margins are shrinking. Most graphic solutions providers have responded with a two-sided approach. On the one hand, they are driving efficiencies by eliminating labor through automation and cutting waste throughout their businesses. On the other, they are implementing new systems and adding new service offerings to differentiate their business. Examples include adding digital print capabilities and digital asset management.

For many graphic solutions providers, this two-sided approach has proven very effective. The problem is that each new system adds a new level of complexity to operations.

And each tends to live on its own, with a workflow disconnected from the others, as a kind of “island of automation.” The various systems don’t exchange information and can’t be centrally controlled. The purpose behind deploying an integrated workflow solution (Kodak’s solution is Unified Workflow) is to bring together all these systems—new systems, old systems, and future systems—into a single cohesive workflow, one comprehensive solution that integrates and unifies the many aspects of business and production.

It is part of a new mindset that can help deliver more value. It can change the way your business operates. It can support your growth into new service offerings and new markets. It can transform the way you interact with print buyers and specifiers, and fundamentally improve the way they perceive you and your business.

Expanding an Existing Set of Solutions

Customers have been requesting integration for years, and vendors are responding with workflow

components that provide various levels of interconnection between systems, for example, software that connects workflow systems with MIS and planning software that automates production planning.

Combining products into an integrated environment gives service providers a unique perspective and a strategic advantage. Organizations like the Networked Graphic Production Partnership and CIP4 provide a framework that helps vendors build the essential connections to provide effective solutions that make business sense for a real world print provider.

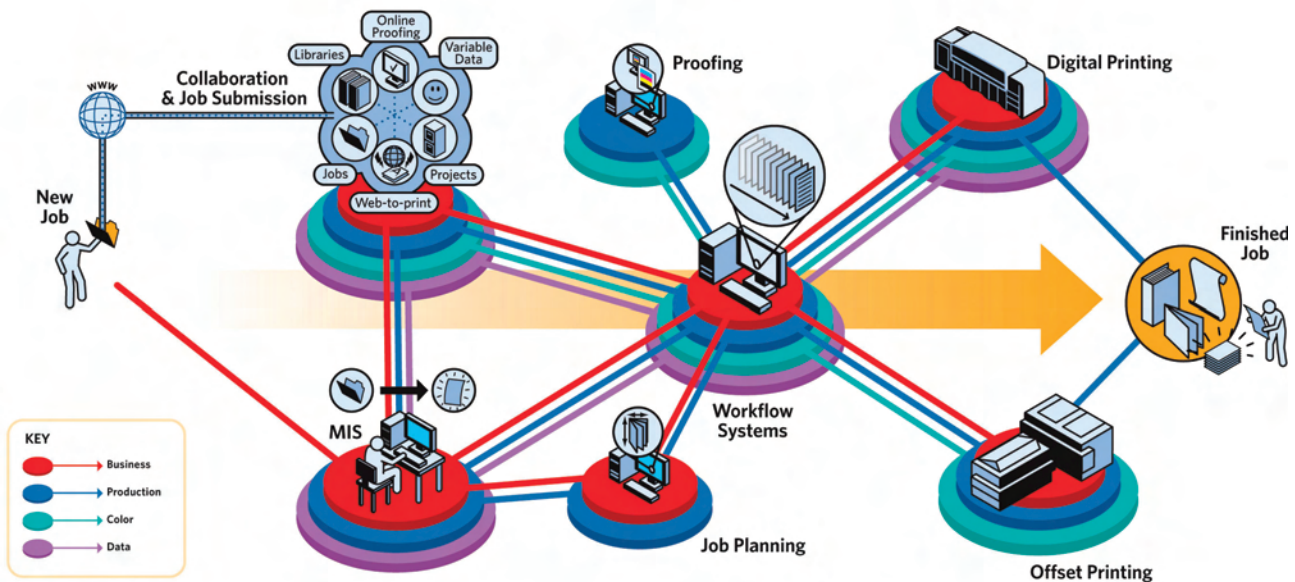
What Is An Integrated Workflow?

In defining an integrated workflow, we divide the overall printing workflow into four component areas. In the past, these workflows operated more or less independently, but we’ll explain the benefits of integrating them.

Business: Business systems or suite of systems collect, process and report on your business. Common tasks could include estimating, inventory management, shipping and, most important, invoicing. These systems help you make informed decisions to improve your planning, cost allocation and inventory control.

More than a generic set of back office and reporting tools, these business systems need to encompass the administrative, financial, operational and strategic aspects of a graphic arts business, and help print service providers build an optimized, customer-centric business environment.

Production: Production systems encompass the set of products that address the many tasks involved with delivering product to your customers. The tools within production manage, control and produce everything from proofs to short-run printing, split



jobs, first offs and reprints. Production is at the center of the convergence of offset and digital print, including variable data printing.

A production workflow should be able to route work easily and conveniently to and between offset, digital and even flexo and gravure printing. It can extend from the prepress and pressroom to the Internet, and include digital asset management products, tools for remote collaboration and approval, and applications that allow customers to create their own variable data campaigns.

Color: Color systems manage and control color quality and color consistency. Color has always been an important issue to print service providers and their customers. As the industry moves into digital print and hybrid jobs, matching color across printing processes presents a new set of challenges. Many print service providers are expanding into multimedia, where color consistency can mean maintaining brand colors and imagery across multiple electronic and print technologies.

Color is critical throughout the entire production workflow. Color products are found at the various input sources, in hard-copy proofing systems, in monitor-based soft proofing, in digital and offset print output, and in electronic output.

Data: Data systems integrate customers' CRM and other systems' data and digital assets to create versioned or personalized communications. This data is used to create high value communications that drive increased response rates.

Data is essential to those graphic solutions providers who have added digital print to their offerings. Personalized data and direct mail services are a significant growth area for the print industry. TransPromo services—where color promotional material is added to invoices and statements—are also seeing significant growth.

Broadly speaking, data systems are the database-linked workflow tools and applications that create variable data print and one-to-one communication. The range of applications for variable print is broad. The business opportunity is huge. Data is changing the way enterprises communicate with their customers. Success in this area is highly dependent on the capabilities of the workflow and the availability of clean accurate data.

Vendors & Integrated Workflow?

These systems are complex, and their capabilities are comprehensive. The challenge facing vendors—in trying to integrate and interconnect these systems—is serious. Why unify these many different systems, especially when most graphic solutions providers have already invested in existing workflows that represent two, three or all four of these component areas?

Integrated workflow solutions address a major problem: these various systems do not work together. Each overlaps in some area with one or more of the others. There are duplicate functions and redundancy. Information has to be re-keyed, or

data may have to be modified or converted from one system to the other.

The resulting workarounds are inefficient, and there is great potential for error, data loss, and delays. And there are likely many opportunities for improved customer service that are missed.

The problem becomes worse each time you add a new system or service, whether it's a digital press or an asset management system. The new system brings with it its own workflow and adds new redundancy of effort to your business.

Integrated workflow solutions need to bridge these gaps. Integrated workflow solutions will provide greater ease and transparency of operation. Integrated workflow solutions bring new efficiency by reducing duplication and error. Integrated workflow solutions will also enable automation between and among systems, and improve graphic solutions providers' abilities to analyze and report on every aspect of their businesses. Above all, integrated workflow can improve profitability.

A Truly Integrated Workflow Solution

A true integrated workflow needs to follow a few fundamental principles.

Automation: Increased profit potential comes from labor savings, though the reduction of duplication and the use of intelligent automation, reduced waste, and increased efficiency of materials usage and inventory management. Increased print throughput and effective production capacity is achieved by reducing error, accelerating prepress, and streamlining production.

Comprehensiveness: An integrated workflow must be comprehensive—it must encompass all current printing techniques and technologies, and provide a platform for new, value-added services that position you and your business for the future.

Openness: An integrated workflow solution must be open, since every printer has existing systems and requires easy interoperability across tools, components and workflows from different vendors. By maintaining an open design philosophy from the outset, vendors ensure that you will be able to benefit from your existing investments in equipment and systems.

Industry standards including JDF, ICC and PDF drive system openness. While these are important, openness is really an entire approach to doing business. A truly open integrated workflow is a result of

vendors' willingness to collaborate with other vendors, either one-on-one or through industry groups like the Networked Graphic Production Partnership.

A Modular Design Philosophy: Modularity is essential; given the huge variety of print service providers, it's clear that there is no one-size-fits-all integrated workflow solution. A printer must be able to purchase only those components required, with the assurance that more can be added, as business needs change.

Those graphic solutions providers who already have modular systems will be able to continue with them. Those with other systems will be able to add the products they need, to gradually build their automated, intelligent, integrated workflow in manageable steps.

An Expandable Solution: An integrated workflow solution must be designed to expand as the print service provider's business grows. For example, as conventional sheetfed or web offset printers expand into digital printing, they will be able to easily acquire the capability to control digital and conventional output from one production prepress workflow.

This is not a far-off future claim. There are customers now who are using one workflow system to control offset and digital prepress workflows. The workflow must also support newer services like web-to-print capabilities and variable data programming.

Transforming Your Existing Workflow

First, examine your needs and figure out what areas of your workflow need immediate attention. Do you need to invest more in your MIS, data, design and customer collaboration tools, workflow, proofing, digital printing, offset printing, or color management? Perhaps you designed a multi-year upgrade and expansion plan, and need to make investments in several areas spread out over many years?

You can start shaping an integrated workflow environment in the area of your business that makes the most sense for you if you work with vendors who follow the five basic principles when designing their workflow products: automation, comprehensiveness, openness, modularity and expandability.

Connecting the Dots: It's easy to understand how to build a solution for one particular area of your workflow, but how do you choose products that seamlessly connect each area to create an integrated workflow? Modularity (scalability) and openness of products are the keys. Together they deliver automation.

Creative Management: The creation of projects requires collaboration, digital asset management and approval routing tools. Web-based tools are the ideal solution, allowing individuals across a wide geographical area and job role responsibility (legal, editorial, photographers, etc.) to work together with maximum flexibility, but full accountability. Job tracking and reporting tools, and the ability to manage roles and responsibilities is a must. Integrated monitor proofing for content and color are vital here to prevent issues later in the workflow that lead to wasted labor and materials. At this stage of the job production cycle, the role of PDF and ICC as open standards plays an important role, as several different software products are often required to meet all creative needs.

The ability of creative management software to support all four component workflows is important here. It must initiate job tracking and invoicing in the MIS, create files that digital workflow systems can readily process, and begin the initial stages of color management and the planning for variable data projects.

Connecting Creative to Workflow Processing: Online job submission, review and approval, and PDF pre-flighting are keys when integrating the creative process to the next major step in the workflow. Products designed to support PDF and JDF standards increase the level of automation supported during job submission and the early stages of prepress processing of refining and normalizing. The ability to exchange information must be bi-directional.

Workflow, Proofing and Planning: The core of job processing occurs in the workflow system. That system must be able to freely exchange files with creative for managing and approving last minute content revisions. It also must integrate with the production planning systems that drive imposition and job planning, and with hard and soft proofing as the final digital color management steps evolve.

Again, the ability to cross all four workflows is imperative to ensure strong automation that drives increased efficiency and capacity, while decreasing errors. To achieve these goals, the workflow must continue to communicate with the MIS to track job costs and activity, automatically collect planning and imposition data, integrate with customers for final file approvals, manage color through hard and soft proofing processes, and anticipate the variable data that the final job will accommodate.

Connecting Workflow to Output: In an integrated workflow, a single workflow system must communicate equally well with both digital and offset output devices. With the industry trending toward shorter print runs and higher numbers of jobs, and customers demanding flexibility, the ability to route jobs between either device at the push of a button is vital to delivering the most cost-effective, timely finished job.

An integrated workflow is essential to help users fully benefit from this convergence of technology by establishing a single platform to improve efficiency and expand service offerings.

The MIS must be able to track the number of plates created, inks used, paper stocks and run lengths to accurately monitor invoicing amounts; the colors produced must accurately match hard and soft proofs generated throughout the production cycle, and any corresponding offset print components from split runs; and digital print jobs must be able to process variable data correctly.

Connecting the MIS Into All Production Aspects: An MIS's ability to connect into all systems and processes determines its ability to effectively manage your business. With connections into various production areas facilitated via JDF an MIS can centralize customer, product and pricing information for easier invoicing, order management, shipping, accounts receivables management, print run scheduling, and provide business reporting and analysis tools to help you stay on top of everything.

Today's successful graphic solutions provider is combining the power of offset and digital solutions to meet customer needs and capture new revenue opportunities. An integrated workflow solution—one that's automated, comprehensive, open, modular and expandable—is essential to help graphic solutions providers fully benefit from this convergence of technology by establishing a single platform to improve efficiency, increase revenue and expand service offerings. 