IPA Bulletin
The Association of Graphic Solutions Providers
March / April 2004

World of JDF
Getting Up to Speed!
The World of JDF
Getting Up to Speed!

by Robin Tobin, Senior Manager, Worldwide Product & Partner Marketing
Publishing Technologies and Services, Adobe Systems, Inc.

JDF is a key element for implementing a fully automated workflow. While still in its infancy, the pace of development is accelerating at such a rate JDF will rapidly become a mature technology. JDF version 1.2 added more than 500 pages of specifications to the file format to produce a more stable product. drupa 2004 will host what promises to be an avalanche of exciting JDF announcements.

The days of mechanicals, art boards, and airbrushed dye-transfers seem like medieval times, yet we’ve only enjoyed the wonders of working with digital graphics for a few short years.

Many of us recall the headaches and backaches that ensued when a truckload of artwork arrived for the manual assembly of a large catalog: peeling retouched artwork from the board to wrap around the drum of the scanner, cleaning up coffee stained images, and sorting through boxes of materials to pair the art with the mechanical. The arrival of digital files eliminated the trucks and pains but didn’t rid us of the quest for missing art. Plus, it added a new twist—missing fonts. Thankfully, a PDF-based workflow eliminated native file format problems. Today, that large catalog job arrives with all the artwork and fonts in one compact PDF file and can speed through the RIP.

We have come a long way, indeed. Still, exciting new developments are emerging, that can revolutionize our industry in a way we haven’t experienced since the advent of desktop publishing. In the future, the PDF file that comes from your customer can also contain a Job...
Definition Format (JDF) attachment that will further automate your workflow. What exactly is JDF and where did it come from? Why do we need JDF and where can we see it in action now?

What Is JDF?
JDF is a key element for implementing fully automated print and publishing workflows. JDF is based on a special form of Extensible Markup Language (XML), a non-proprietary information carrier that can link and refer files to multiple output devices. Content created in a file format that is JDF-enabled can also contain information that explains how the print service provider should complete the print job. Clients can add information specific to output, such as the number of pages, paper size, and colors specifications, as well as include the type of paper to use, delivery method, quantity of prints, and due-date information.

When a print provider receives this information along with the content to print, he eliminates a major source of errors in print workflow—re-keying customer job ticket information—and greatly automates prepress production.

In addition to automating prepress, JDF files interact with JDF-enabled Management Information Systems (MIS). A job coming in with a previously quoted price can be matched to the original estimate, and alert the graphic solutions provider to any changes between the first estimate and the actual job. The graphic solutions provider can also manually add information to the JDF file, such as reporting job data to the accounting department, and the job’s print status to the production team.

While the prepress and MIS automation capabilities of JDF are impressive, JDF also positions the print industry to move into Computer-Integrated Manufacturing (CIM)—a model that most industries have already implemented. As it is routed through prepress, a JDF file can capture color settings and automatically set the ink fountain on the press or bindery equipment. Likewise, as the JDF file moves through a shop’s workflow systems, it collects and disperses information, which controls how the equipment functions for each facet of the print job.

Forward-looking graphic solutions providers who are looking to bring value-added services to their clients will find JDF to be an invaluable asset. For example, the printed piece may be just one part of a package containing other components, and JDF could facilitate the ordering and coordination of the other materials. The possibilities expand further because JDF can interlace with other appropriately configured databases, such as CRM software and customer supply chain information.

The goal of JDF is to integrate every aspect of the printing business—from the business workflow to the production workflow—yielding greater automation, speed, cost efficiency, and ease-of-use from content creation to distribution.

Where Did JDF Come From?
JDF got its start in the late 1990s when Adobe Systems developed the Portable Job Ticket Format (PJTF), and the International Cooperation for the Integration of Prepress, Press, and Postpress (CIP3) introduced the Print Production Format (PPF). Both CIP3’s PPF and Adobe’s PJTF sought to automate the print workflow. The organizations found that to achieve total automation and process control, the two file formats should be merged and expanded into a broader file format, JDF.

Adobe collaborated with Agfa, Heidelberg and MAN Roland to create the initial JDF specification. These four companies designated the specification as an open standard and released it in April 2000.

Embracing compatibility with both PPF and PJTF paved the way for the CIP3 committee to take over development of the new JDF standard. To signify the importance of this new role, the committee changed its name to the International Cooperation for the Integration of Processes in Prepress, Press, and Postpress, or CIP4. This independent, international operating standards body, located in Switzerland, was estab-
lished for the benefit of the entire industry; its purpose to establish worldwide standards that encourage computer-based integration of all graphic arts industry production processes.

“With the March publication of CIP4's catalog of JDF-enabled products called the 'JDF Marketplace' with other JDF-enabled products. Because of its importance to the print industry, CIP4 and the Graphic Arts Technical Foundation (GATF), a nonprofit, technical, and education organization serving the international graphic communications industries, have combined forces to expand Interoperability testing methods and certifications.

Print is confronted with the greatest challenge it has ever faced: electronic media. Broadcast e-mails—with full color graphics, which instantly reach their destination and link customers to an eCommerce Web site for an on-the-spot purchase—constitutes an enticing and cost-effective alternative to a printed brochure.

we saw more than 120 JDF-enabled products and services. I expect that number to top 150 by drupa 2004 and double by Print 2005,” commented James E. Harvey, executive director of CIP4.

“We’ve recently heard folks like Time, Inc., and Hachette discuss time tables that predict JDF implementation with their print providers in the late 2004 to mid-2005 timeframe. JDF is definitely making the move from R&D and beta testing to the shop floor in 2004,” he added.

Based on the number of people and amount of time devoted to JDF development, James Harvey estimates that at least $500 million is currently being invested in JDF, and he foresees that number approaching $1 billion.

CIP4 is working diligently with the industry and its members to develop JDF. To promote compliance, CIP4 hosts periodic “InterOps,” which provide vendors the opportunity to verify that their new products work with the JDF standard and that they successfully communicate.

Most industry equipment and software providers are enthusiastically working to release JDF-enabled solutions. The effort is a monumental undertaking, but the goal is a worthwhile one: ensuring JDF becomes an everyday industry standard that will end the print production communication problems of the past. With JDF, a broad range of production systems from multiple manufacturers will speak to each other in a common XML language, offering the automation and productivity advancements the industry needs. Like PostScript and PDF, JDF will soon emerge as a vital print industry core technology.

Why Do We Need JDF?
Print is confronted with the greatest challenge it has ever faced: electronic media. Broadcast e-mails—with full color graphics, which instantly reach their destination and that link customers to an eCommerce Web site for an on-the-spot purchase—constitutes an enticing and cost-effective alternative to a printed brochure. Electronic media will continue to improve, which poses an ever-increasing threat that is far greater than the sluggish economy or competing print provider down the street.

For print to have a vital role in the future it must become far more cost-effective for customers. Mistakes and unexpected results, like those resulting when print job information is re-keyed, need to be eliminated. Customer involvement in the print process must be simplified. This begins with reliable, quick, and easy methods to create the job, capture accurate information, and then transmit the complete job, with all output specification information, to the graphic solutions provider: total automation that starts with the customer and flows through the print shop until the finished job is delivered.

The printing industry has been slow to adopt Computer-Integrated Manufacturing (CIM). But, graphic solutions providers must embrace CIM in order to advance the future of the industry. Fortunately, JDF solves many of the print provider's unique challenges, making it a key tool to help print maintain its position as a healthy, growing industry.

Where Is JDF Now?
JDF is still in its infancy, but the pace of development is accelerating at such a rate it will rapidly become a mature technology. JDF version 1.2 added more than 500 pages of specifications to the file format to produce a more stable product. drupa 2004 will host what promises to be an avalanche of exciting JDF announcements. In fact, many are calling this the "JDF drupa."

drupa 2004 attendees can experience JDF Parc, an area hosted by over 20 CIP4 member companies. JDF Parc will feature live demonstrations and presentations describing how a JDF-enabled print job moves through the workflow. "All visitors to JDF Parc will be invited to participate in a
JDF demonstration experience,” said CIP4 executive director, James Harvey. “When they arrive, they will be issued a ‘job ticket,’ a card with a unique identification number and space for 12 punches. Visitors will then go to any of the job initiation pods within JDF Parc to begin their ‘job.’ At each station they will receive another punch and the unique identifier will be used to track their job’s progress from station to station. Completed ‘job tickets’ will be entered into a raffle for prizes that JDF Parc visitors may win. What better way to fully grasp the impact that JDF can have on your workflow?”

Many JDF-enabled products and technologies are available today, including Adobe Distiller 1.5, part of Adobe Acrobat Professional. PDF is the foundation technology and file format for an automated print workflow, and links perfectly with JDF. Automated workflows are often referred to as PDF/JDF workflows. For the prepress community, the RIP is a central focus. Adobe PostScript 3 version 3016 is also JDF-enabled and many Adobe partners, such as Heidelberg, have already incorporated Adobe PostScript 3 version 3016 into their RIPs and workflow solutions. Heidelberg has taken JDF implementation much further with Prinect, which is a JDF-integrated manufacturing solution. Prinect is a suite of integrated workflow modules that gives us a look at where the future is headed: Prinect, based on JDF and PDF, is modular, scalable, and open. One could buy all the Prinect components and have a total system—from prepress to connecting the graphic solutions provider with the print buyer, to controlling the press and bindery.

As mentioned above, Management Information Systems (MIS) are a key component in a print shop. Heidelberg’s PrintReady works very nicely with another important Prinect component, Prinance, Heidelberg’s JDF-enabled MIS. EFI’s Hagen OA MIS system is also JDF-enabled and is one of a number of JDF solutions from EFI. EFI Exchange automates the print job order management process by utilizing the Internet to tie into the print provider’s customer desktop. EFI OneFlow is a complete prepress system and EFI Balance distributes the job across multiple graphic solutions providers. EFI has even brought JDF capabilities into remote proofing. Remoteproof compares and measures color values of proofs, ensuring the print result is exactly as intended. EFI’s Remoteproof is another example of how JDF can be integrated into many aspects of the printing process to make print fast and easy for the customer—a key benefit in competing effectively with electronic media.

With PDF and JDF as foundation technologies of an automated workflow platform, it’s important to create a quick and simple JDF-enabled PDF tailored to the graphic solutions provider’s needs. PDF JobReady, which is distributed and supported by Datalogics and other Adobe partners, accomplishes that. With a simple click, PDF JobReady makes it easy for the print provider’s customer to automatically make and send a PDF over the Web, tailored to the production needs of the print provider, without the need for Adobe Acrobat on the desktop.

Customer integration is another area rapidly embracing JDF. Printable Technologies’ Print One Customer Center is a JDF enabled desktop resource that simplifies and automates job ordering. LaVigne, a large New England commercial printer, is an early pioneer in using a PDF/JDF workflow and has had solid success in using JDF-enabled solutions, such as the Print One Customer Center. This solution simplifies the task of ordering repetitive jobs that need some modifications.

Chris Wells, CEO of LaVigne, confides that the path to the digital
press is easier than the offset path. However, according to Wells, the promise of sending JDF information such as ink fountain settings, paper size, and gripper settings to the make-ready system on LaVigne’s 40-inch, 8-color Komori from the Creo server is a reality. Wells and his management team are keeping up with the rapid development of JDF-enabled solutions. They believe a total PDF/JDF workflow is just around the corner and they want to capitalize on the enormous benefits. Currently, Wells is working with Datalogics to add Adobe PDF JobReady to make JDF/PDF customer automation even easier.

Wells pointed out that an automated workflow with JDF is happening faster when the project is printed on a digital press, and this has not been lost on Xerox. The Xerox Free Flow Digital Workflow Collection is based on an open architecture and industry standards, such as JDF. Xerox is automating workflow and enabling a common set of electronic instructions to direct a job end to end. Xerox also presents print providers a book containing more than 80 pages of manufacturers and solutions that can be integrated into an automated workflow customized to a print provider’s needs. Xerox is well aware that a commercial printer needs to integrate digital and offset printing now. Recently Xerox introduced the FreeFlow Print Manager. Utilizing JDF, the FreeFlow Print Manager works with Creo’s JDF enabled Prinergy workflow management system eliminating the need to re-key job ticket information at the digital press. From Prinergy, the operator can direct the job to an offset workflow or a digital press.

Another Xerox Free Flow Digital Workflow Collection business partner is NowDocs. NowDocs’ NowPrint solution is a Web-based data entry, fulfillment, and administration system. NowPrint enables PDF/JDF automation for customers using Adobe PDF JobReady.

As you can see, the PDF/JDF workflow is rapidly becoming a reality. It is critical that you as a print provider investigate and plan your growth now so you can be part of the automated workflow revolution. There are numerous seminars on JDF and educational materials available on the IPA Web site. IPA, in conjunction with CIP4, offers a “JDF Expert Certificate” training program, which is an extensive course comprised of 13 separate training classes that address specific topics associated with JDF technology. The program concludes with a final examination for those individuals interested in earning a “JDF Expert Certificate.”

March/April 2004 9