



BUSINESS AUTOMATION SOFTWARE FOR PRINT AND PACKAGING

EFI PrintFlow

Dynamic Scheduling



Dynamic Scheduling: Optimizing Savings

Today's printing operation can't afford to be managed job by job, cost center by cost center. Shorter lead times, shorter runs and tighter margins are pressuring you to make the most of every system and every process in your plant. To meet the challenge, your scheduling strategy needs to do more than schedule individual print jobs. You need to close the gaps between processes, relieve bottlenecks, adjust to changing conditions in real time and optimize your entire operation.

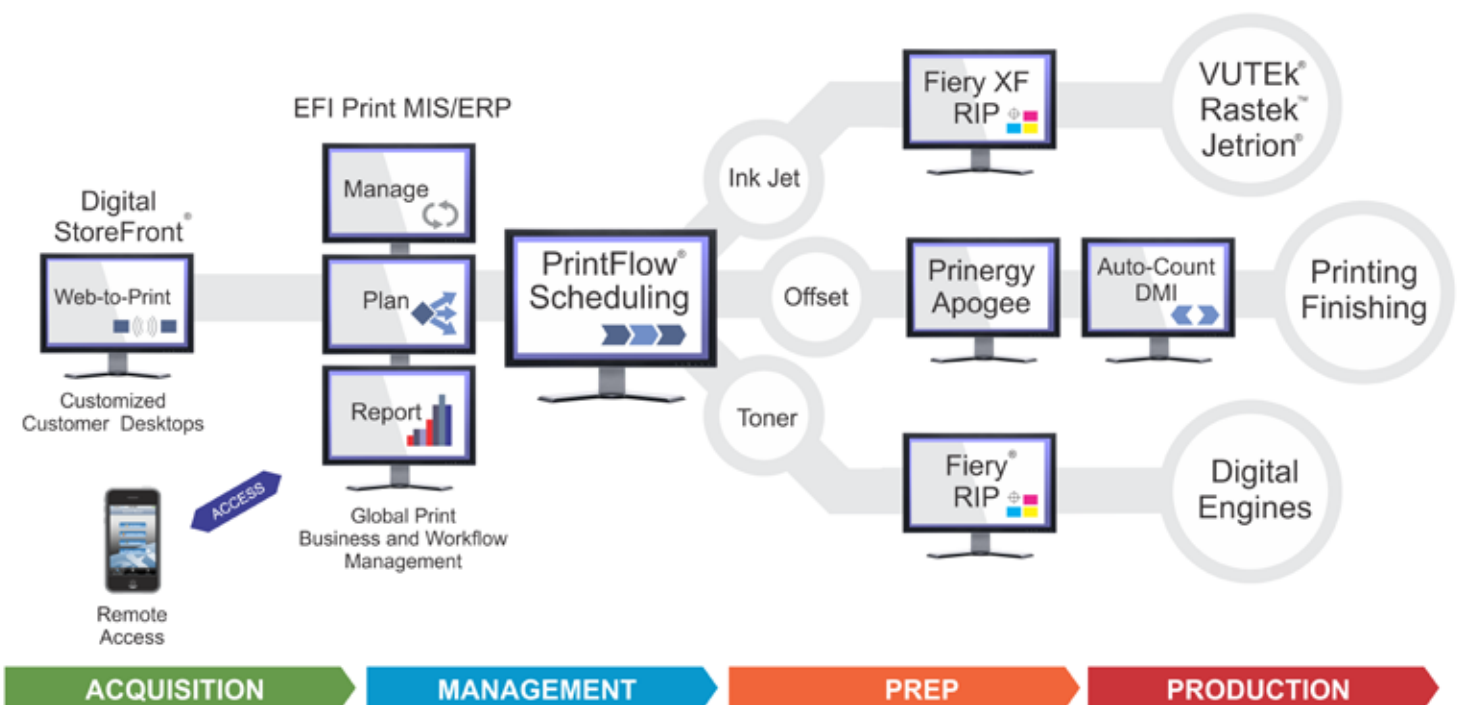
That's the advantage of PrintFlow™ from EFI™. PrintFlow helps you realize savings by optimizing the interaction of all the activities in your plant. PrintFlow's real-time calculations, enterprise-wide scope and unique what-if capabilities transform scheduling into the focal point of your management solution. An intelligent, rules-based tool, PrintFlow manages your production not as islands of automation, but as an integrated, automated system – to increase throughput, minimize costs and boost profitability as no piecemeal scheduling strategy can.



Connecting the Entire Print Workflow

EFI's solutions help our customers deliver better quality printed products, streamline their operations, reduce costs, get work out the door more quickly, and capture business and production information to help drive continuous improvement.

Our Connected Workflow Strategy touches virtually every step of the print production value chain.

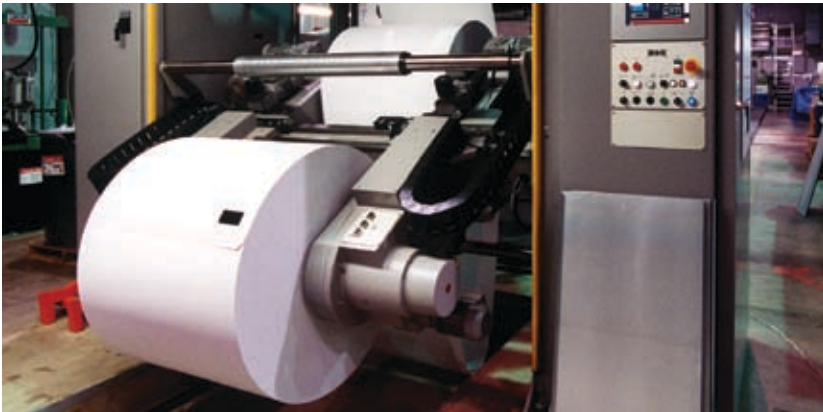


Beat the Competition

Find the Best Spot for Each Job Automatically

PrintFlow is a true dynamic scheduling system that automatically identifies the optimal path for each job based on the equipment available, current workload and the delivery schedules for all jobs.

- PrintFlow fits the sequence of steps required to all other jobs and conditions to produce a job efficiently.
- PrintFlow sequences the jobs of every cost center to optimize the entire manufacturing process, from prepress through delivery.
- PrintFlow matches each new job with all other jobs in the plant in order to reduce makeready time, waste and redundant steps.



Dynamic, Real-Time Status at a Glance

PrintFlow gives you an instant view of your current schedule and available capacity by cost center and by day, hour or any time frame you choose. Its unique Gantt chart shows you all the jobs in your plant in a single, configurable working window. Powerful manipulation software lets you click and drag to create summaries, tasks, links, timelines and more. Options let you view data in workflow or tabular form. And as you make changes, PrintFlow instantly updates the schedule scenario to show you the impact of your decisions in terms of scheduling and equipment utilization.

More Power to Play What-if

The visual power of PrintFlow is complemented by its ability to perform powerful what-if scenarios that let you evaluate the impact of one or many changes to the schedule. Each time you make a proposed change to the current schedule, PrintFlow immediately re-optimizes, re-synchronizes and provides a new scenario with an impact analysis to compare to your live schedule. You'll know the effects of any action – good or bad – before you release your new schedule.

PrintFlow Advantages:

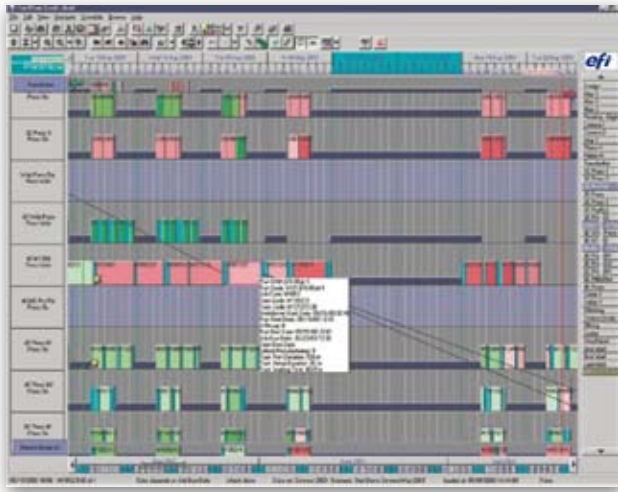
- Optimizes use of equipment.
- Minimizes make-ready time.
- Increases capacity.
- Increases throughput.
- Increases on-time delivery.
- Makes proactive scheduling decisions.
- Responds more quickly to customer needs.
- Reduces waste.
- Increases profitability.

PrintFlow Highlights:

- Schedules the entire plant based on the Theory of Global Optimization.
- Optimizes to reduce switchover time and waste.
- Uses what-if scenarios to evaluate potential changes.
- Dynamically evaluates links and dependencies between cost centers.
- Predicts and analyzes events as they occur.
- Presents graphical schedule views by cost center or day.
- Color codes overtime, idle time and downtime, or any criteria you choose.
- Allows manual overrides, freezing and grouping.
- Automatically calculates production-stage due dates.
- Offers drag-and-drop editing.
- Provides customizable reports.
- Integrates with EFL management systems.

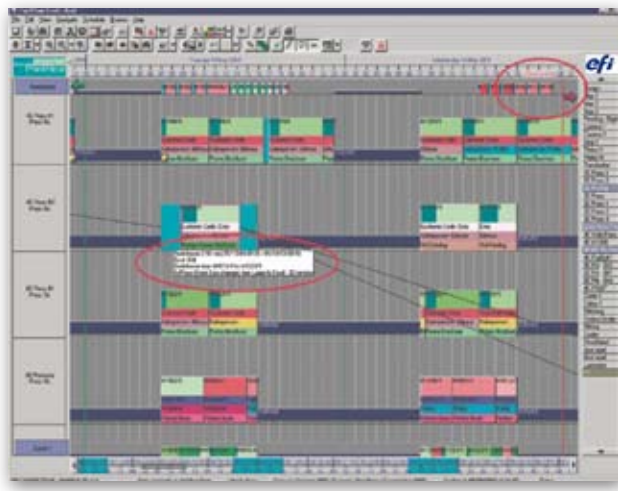
A Digital Magnet Board — and so Much More

The Gantt chart is where you view and manipulate your schedule. You can see if a job is late or how much slack time you have between operations. The Gantt chart allows manipulation (if necessary) of all tasks while automatically calculating the switchover time between different tasks and controlling all upstream and downstream dependencies.



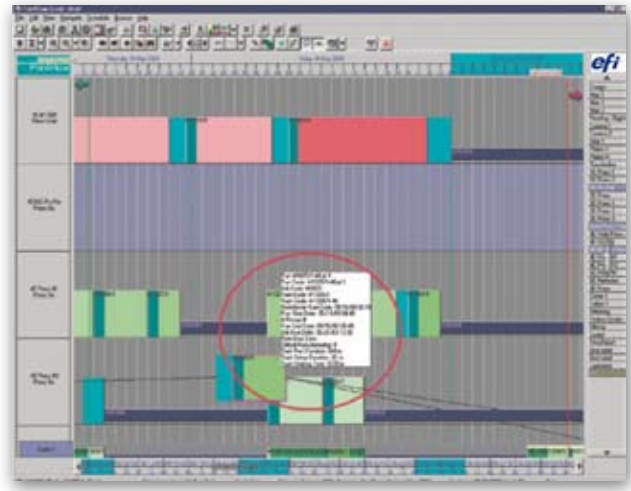
Fast Answers

PrintFlow is the only true dynamic scheduling tool in the industry with optimization. Think of the time your scheduler and production managers spend trying to synchronize your schedule. PrintFlow gives you instant feedback to questions. In addition, PrintFlow lets you know if you will be incurring additional switchover time by making a change.



Help with Hands-on Scheduling

In addition to robust scheduling automation, PrintFlow gives you powerful tools to assist in manual scheduling activities. For example, as you drag a task across the schedule, switchover time is calculated automatically as PrintFlow compares the properties of one task against another.



TGO: The Revolutionary Scheduling Strategy Behind PrintFlow.

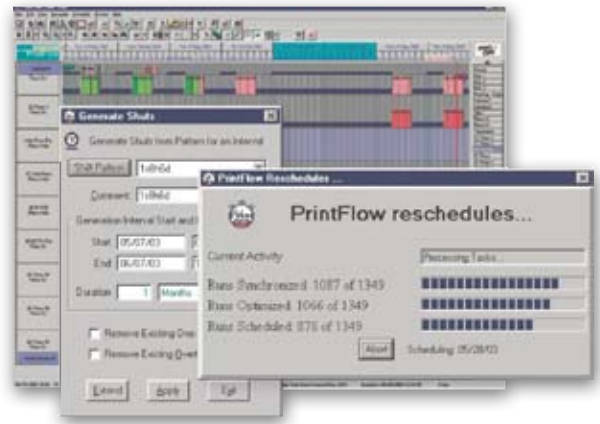
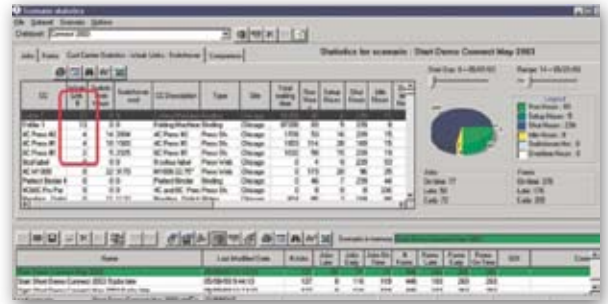
PrintFlow's strategic advantage is the Theory of Global Optimization (TGO), developed for the print industry by Udi Arieli and his team at EFI. TGO applies key manufacturing principles of Dr. Eli Goldratt's Theory of Constraints to the business of printing. TGO builds profitability by increasing throughput across the entire operation and makes CIM for print a reality today. Key principles of TGO include:

- A manufacturing operation is a chain of interdependent links and only a few constraints control the throughput, on-time delivery and cost of the entire printing operation. Remove the constraints and you increase production and boost the bottom line.
- The wider perspective of the plant takes precedence over the narrower focus of single jobs or cost centers.
- Increasing throughput is far more important than cost accounting.
- Profitability is created by the sum of all jobs, not the theoretical profitability of individual jobs.
- Higher efficiency or productivity in a single cost center does not lead to higher profits.
- On-time delivery is not determined by the most efficient cost center, but by the weakest link.

Optimize

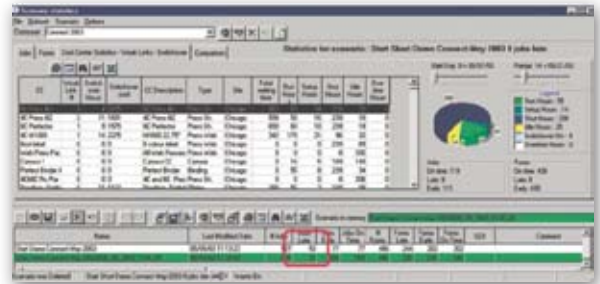
Find Your Weakest Link and Eliminate It

PrintFlow allows you to manage production bottlenecks and control jobs. In this scenario, the cutter, folder and perfect binder are the weak links. The result is 50 late jobs – 27 because of the cutter alone.



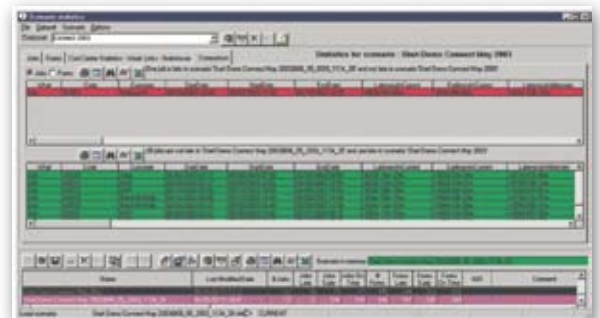
Create a What-if Scenario by Adding a Shift to the Bottlenecked Cost Center

Based on these changes, you can reduce late jobs from 50 to 23. This what-if scenario provides the information you need to make better decisions. Is it worth changing work patterns over the next few days to ship 27 more jobs on time?



What-if Comparisons

PrintFlow allows you to compare what-if scenarios to see which jobs and customers are affected. You can evaluate which jobs become late because of a rush job and which jobs ship on time with overtime in the bindery area.

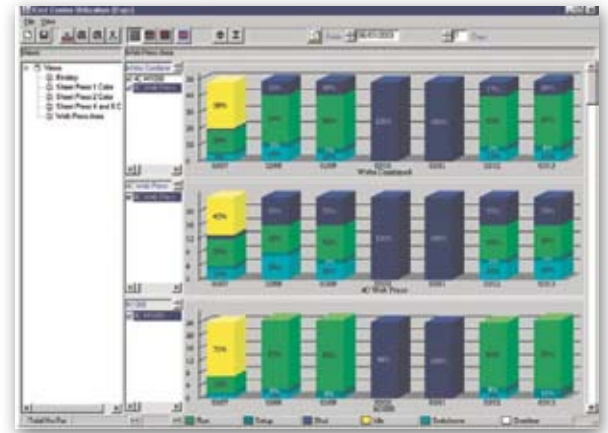




Synchronize

Capacity at a Glance

PrintFlow includes a powerful, user-customizable Capacity Utilization tool that allows you to look at utilization at the cost center, department, plant and company levels, and across days, weeks and months. Views include idle time (yellow), run time (green), overtime (white) and other parameters.



Smart, Unlimited Manual Scheduling by Job

PrintFlow gives you the tools and flexibility to operate with totally automatically, totally manually – or anywhere in between. Using the PERT diagram, you can view, manage and schedule individual jobs. You can even break up long runs into multiple parts to run across multiple pieces of equipment.



Integration with EFI Print MIS Solutions

PrintFlow has been designed to integrate smoothly with EFI's print management solutions, helping you to improve your entire work-flow. Share job specifications and job status and attack the inefficiencies that undermine your investment in people and equipment. PrintFlow's automated, integrated approach eliminates the need for re-keying and delivers more accurate data in real time.

PrintFlow is one of a number of integrated add-on modules for your EFI print management system. These interconnected modules enable a seamless flow of data across all parts of your printing operation, right down to the shop floor. This integration extends your view so you can see your entire business more clearly, giving you the visibility to make more informed decisions.

Code	Description	Earliest Start Date	Due Date	Run Time (Minutes)	Planned Quantity	Cost Center	CC Type
M1001-2-10	Proof Image - Digital	05/07/03	05/15/03	60	0.00	Printing - Digital	Plans

Partno	Code	Description	Earliest Start Date	Due Date	Run Time (Minutes)	Planned Quantity	Cost Center	CC Type
33.3	M1300-2-10-1	Proof Image - Digital	05/07/03	05/15/03	20	0.00	Printing - Digital	Plans
33.3	M1300-2-10-2	Proof Image - Digital	05/07/03	05/15/03	20	0.00	Printing - Digital	Plans
33.3	M1300-2-10-3	Proof Image - Digital	05/07/03	05/15/03	20	0.00	Printing - Digital	Plans

EFI PrintFlow

INTERTECH
TECHNOLOGY
AWARDS



"An investment in this scheduling system will increase production. Its concept is simple, yet brilliant," concurred several GATF judges

For more information
on EFI PrintFlow go to
www.efi.com/printflow



EFI's portfolio
of integrated
solutions increases
productivity and
improves your
bottom line.
Find out more at
www.efi.com.

Print to Win™ with EFI

EFI™ (www.efi.com) is a world leader in customer-facing digital print products from job submission to production. Our integrated, end-to-end solutions include Fiery® digital print controllers and solutions; VUTEk® superwide digital inkjet solutions; Rastek™ wide-format solutions; Jetrion® industrial inkjet systems; print production workflow and management information software, and corporate printing solutions.



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