

Fiery API drives print-on-demand productivity.

Challenge

Printondemand-worldwide.com (PODW) specialises in digitally printed book production, offering a complete end-to-end service for academic, specialist and technical publishers and anyone else who wants a high quality short-run book printed, from a couple of thousand copies down to just one. Its client list includes Taylor & Francis Group, Osprey Publishing, Cambridge University Press, Inderscience and Oxford University Press.

PODW's print fleet includes three Océ machines for black & white work and for colour, a Canon imagePRESS C7010, two Ricoh Pro C751 models and a Xerox iGen 150, the latter three all driven by EFI Fiery digital front ends (DFEs). In addition the company has just invested in a Screen roll-fed high-speed press to provide increased capacity.

With some 300,000 book files in its library, PODW prints and dispatches thousands of books a day, including both soft and hardcover editions, all printed and finished in-house. Typically around 70 per cent of these are single-book orders, while the rest might run up to the low hundreds of copies.

The only way to handle production efficiently at this scale is via extensive automation, both on the factory floor, where highly-automated finishing lines are installed and in the placing and management of orders. PODW developed its own 'CRMIS' (customer relationship management information system) tailored to its needs to bring sales, production control and analysis together.

One of the key challenges was to efficiently manage single-copy orders. PODW prides itself on its 'book of one' printing service, in which individual customers can have a book made to their exact specifications and design. With constant growth in this area of the business, PODW found that the highly variable quality of files supplied with these orders required a specialist software system to manage the increasing volume of jobs.

Jobs are batched each day for the various digital presses. Although PODW's bespoke imposition software detects



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MATTHEW AITKEN, WEB/IT DEVELOPER
PRINTONDEMAND-WORLDWIDE.COM

Established nearly 20 years ago as a facilities management company, Printondemand-worldwide.com has specialised in digitally printed book production since 2006. The company has a 'complete service' philosophy, based on an extensive understanding of the book lifecycle and sales cycle, from manuscript to print, and offers bespoke integration/development services where appropriate.

As well as working with leading academic and specialist publishers, Printondemand-worldwide.com extends its services to individual end-users, giving publishers and authors a bigger share of the profits. The company has a strong environmental ethos and is certified to a number of quality and environmental standards.

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and automatically rectifies known issues, there is still a small number of reasons why a print file may fail. A missing file would not be picked up until after the batch had finished printing and been cross-checked. Bar-coded temporary jackets are produced for each book and used by staff operating the finishing equipment, but this identifies the problem too late in the batch's production line.

"We needed to know which books were missing as soon as the batch had finished printing," explains Commercial Director Aaron Roach. The automation console could identify when any particular job had been sent to a press but could not track it in any further detail until it was scanned through the bindery. Alert and experienced operators might spot missing books, but with PODW's emphasis on planning out inefficiencies, a faster and more certain approach was needed.

"We needed to be able to look into the printer logs to identify which jobs were not processed through the system successfully. The standard Fiery job log only allows a single upload, per day, which provides the entire day's information but we needed it to be as 'live' as possible," says PODW's web/IT developer Matthew Aitken.

Solution

Aitken and Roach knew of other companies who were pulling information from their Fiery DFEs; searching online forums brought them to the EFI developer website (developer.efi.com). They were intrigued by how the Fiery API could improve their operation and contacted EFI about a license. Since PODW would use the Fiery API in their own operation, EFI provided the licenses free of charge.

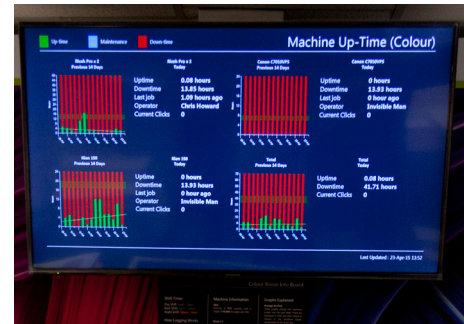
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The live production status information captured through Fiery API is used to calculate and continuously update key production figures and graphics that are presented on large displays around the production floor so that everyone has an at-a-glance view of all jobs to optimise production efficiency.

The web-based Fiery application programming interface (API) is available for a variety of desktop and mobile platforms. Simple and easy to use, Fiery API allows developers to create custom tools or applications using modern web-based technologies such as WebSockets to enable live bi-directional interaction with Fiery DFEs. With Fiery API, retrieving job log data, for example, requires just a line of code. Fiery users can easily create apps in whatever programming language and development tool they choose to solve day-to-day challenges, just as PODW did.

"Once we received the access keys and some background knowledge of how the API is structured, it became very easy to extract the information we needed," says Aitken. PODW's production automation system now requests updates from the Fiery DFEs every minute about the previous minute's production, so that live production status information is gathered.

This information is used to calculate and continuously update key production figures and graphics that are presented on large displays around the production floor so that everyone has an at-a-glance view of all jobs in production. These include production volumes by operator or department, costs and wastage, trend analysis and even extend to relatively manual production areas such as case making for hardcover books and tracking operator training and skills development.

Results

The monitoring system went into operation in mid-February 2015 and immediately highlighted areas in which productivity could be improved. "We could see that printer uptime was too low, that small gaps between jobs were building up," says Roach. "By re-focusing operators on getting jobs lined up and generally tightening up procedures we were able to reallocate some staff away from printing altogether."

Customers using PODW's 'BookVault' on-demand book printing facility can log in via the website to see job status – printed, bound,

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AARON ROACH,
COMMERCIAL DIRECTOR,
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shipped and invoiced. Larger clients have electronic reports sent to them automatically, cutting the number of routine calls that PODW needs to handle.

Fiery data is also central to an automated scheduling system that will optimise production time and help operators plan their work via Gantt-type charts showing planned and actual production time for each job. "Job visibility and production information accuracy will take a huge leap forward with this," says Roach. Customers will be able to check progress down to the percentage of pages printed and delays such as paper trays needing refilling will be easier to detect.

It's likely that ongoing analysis of production data will drive wider procedural changes at PODW. "Increasing throughput by just five per cent can change how something is best done," explains Roach. "We're constantly reviewing potential bottlenecks."



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