How Ag Spectrum uses Fiery APIs to grow their business helping growers

For more than 30 years, Ag Spectrum has provided leadership in soil sampling and professional tools that help growers make informed decisions that lead to higher yields, reduced crop input costs, and more profit. The company's crop-management tools consist of ST/MZ soil sampling, Maximum Farming Recommendations, and the Maximum Farming Report.

As Information Systems Manager Brian Macomber notes, those reports can be huge, filled with graphics, and very complex — which can present some unique printing challenges. "The majority of our printing is soil-test maps and yield reports. We had one report that was about 1,800 pages," he says. "They're highly customized. Every page is different. It could be half maps and graphs. We're not making 1,000 copies of the same thing."

Ag Spectrum originally used a workgroup laser printer. When the company moved up to a Xerox® Color 560 Printer and its current Xerox Versant 80 Press with help from RK Dixon, the local Xerox Business Solutions team, Ag Spectrum was able to transform the way it printed — especially by using Fiery® tools and the Fiery API to automate their workflow.

Printing more in-house

The image-heavy soil-test maps and yield reports can produce gigabyte-sized PDFs. Fiery API allowed Ag Spectrum to optimize the performance of its production. Ag Spectrum's internal system splits the 1,800 pages into six 300-page PDFs and directly submits them to the Fiery Sequential Print Queue in reverse order using Fiery API. This automated API workflow produces the same result as an 1,800-page PDF in less time. Macomber says it also eliminates the errors they used to get using hot folders.

Challenge:

"Our jobs are highly customized. We're not making 1,000 copies of the same thing. But we don't have specialized print staff either, so we need a simple way to do this."

BRIAN MACOMBER,
INFORMATION SYSTEMS MANAGER
AG SPECTRUM COMPANY

Ag Spectrum Company was founded in 1984 by six men who were raised on family farms. These forward-thinking entrepreneurs based their new company on the principles of basic science and designed a comprehensive systems approach to help American farmers produce crops in the most cost-efficient manner possible. Ag Spectrum has grown to include approximately 125 representatives in 21 states and remains dedicated to developing better fields, better yields, and especially better farmers.

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Overcoming that hurdle was so successful that Macomber says, "The cost savings of printing our routine maps in house using Fiery API automation was enough to justify the move to a bigger press. Being able to do routine marketing pieces in-house was almost a bonus after that."

For these marketing pieces, Ag Spectrum has long had a portal where dealers can order marketing pieces. Called the Equipment Locker, it allows dealers to choose marketing pieces they want — either pre-printed stock items or custom materials — upload contact information if they want them personalized, and send the request.

Macomber explains, "For our marketing materials, we do a lot of presets. Most of the setup work is done by making the job preset in Command WorkStation. But instead of having to produce the file and put it in a hot folder, we just directly integrate our systems with it — our front-end ordering system and custom backend business systems that have all the information in them — and directly send jobs over to the Fiery server using Fiery API."

He adds that this eliminates a lot of errors and waste. "With hot folders, I had to keep them updated, get them on everyone's desktop, and make sure they didn't drop files in the wrong one. Building a workflow with Fiery API takes that potential for user error out of the process. The software system tells the server, 'This is what it is and how to print it.' So it's always correct."

While they do an eight-page tabloid newsletter, Macomber says they also do "a lot of one-page marketing pieces. We do a lot of customized invitations for our dealers, too. They might have a local meeting, and we'll print a postcard invitation for it. They can order the materials they want, and we'll print and mail them to various clients. We do variable-data addressing for those." The quantity for a single dealer could be very low. So it was important to make the printing cost-effective. And automated Fiery API workflows have done that for Ag Spectrum as well.

More customization

Macomber says, "If it's a customized piece with a contact name and mailing address, our system generates the whole workflow to do that. It goes to the Fiery server as a completed job that's ready to be released. We automate FreeForm™ workflows with Fiery API, so staff members who operate the press don't need to know anything about variable data."

He adds, "We send the master first and connect the variable data in the Fiery server. The server knows to use the right master, and the whole process goes a lot faster."

Ag Spectrum uses Fiery Booklet Maker software and a standard finisher on the press to do booklets. All the trimming is done offline on an electric cutter. Macomber and the staff at Ag Spectrum prep the big documents for three-hole binders and have a heavy-duty hole puncher they use for that. Macomber also likes to use

Solution:

"When I looked at Fiery API, it was perfect. It's simple. As a developer who's used to web APIs, it didn't take long to learn how the interface worked to start automating our workflows."

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Fiery Impose. He describes the process like this: "Most of our postcards are 6x9. We print them 4-up on 12x18 stock. We have an Impose template to correctly do that. Since Fiery servers have preset features that can specify an Impose template, we have a Fiery API call that says, 'Use this preset.' It does all that work. I used to manually set up two-up printing. Impose has made that process much easier. We also use Color Profiler Suite to calibrate the machine and paper."

Process:

"Building a workflow with Fiery API takes that potential for user error out of the process. It's always correct."

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Better use of a small team

Macomber describes Ag Spectrum as "a relatively small company. We have over 100 dealers, but only about 12 people at our main office, so we don't have a lot of people to do printing. That means I was setting up a lot of the jobs and printing them — which is not my main job here!" Looking for a way to automate print jobs, he looked into JDF and then read about Fiery API on Fiery Forum™. He went to developer.efi.com and was surprised that there was no cost to use Fiery API.
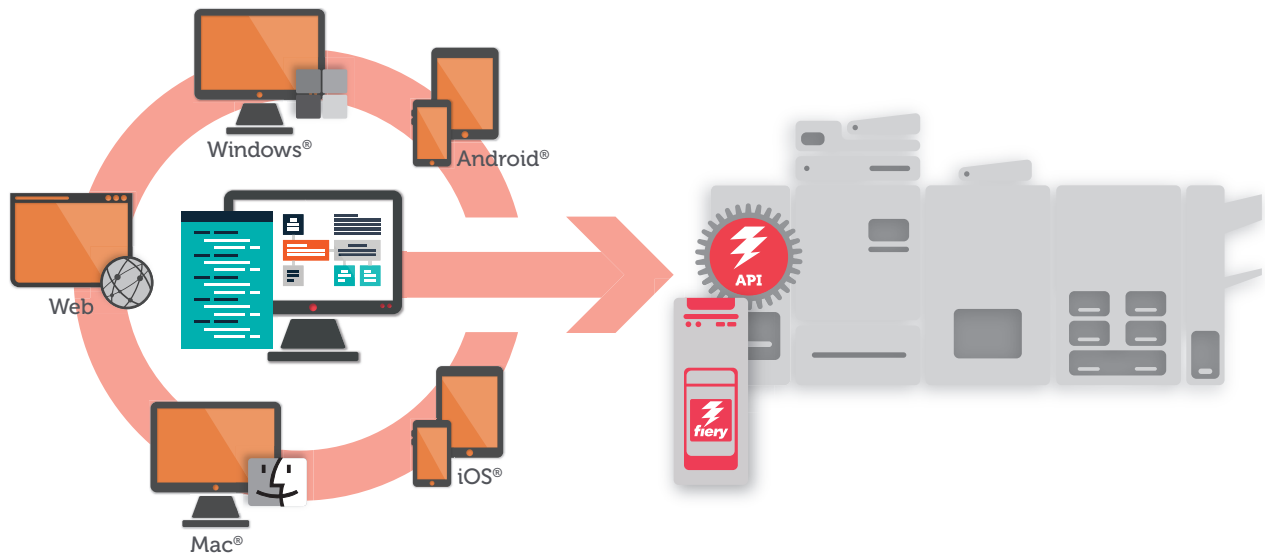
Fiery API gives users the ability to easily interact with Fiery DFEs while developing their own unique applications using familiar programming languages. Built on modern web-based technologies such as WebSocket, Fiery API enables live, bidirectional interaction, and adheres to the popular REST (Representational State Transfer) architectural style, allowing developers to conduct API calls with simple HTTP methods.

He was even more pleased by what he could do with Fiery API. "When I looked at it, it was perfect. It's simple," he says. "As a developer who's used to web APIs, it didn't take very long to learn how the interface worked."

Now the process is simple. People go in to the system and hit print. He says, "I can teach anybody in the office how to do that. They don't need to know anything about the Fiery server except how to release a job and load paper."

Automating the workflows takes the potential for user error out of the process. He says, "The software system tells the server, 'This is what it is and how to print it.' The Fiery Paper Catalog is an extra protection against user error and waste. If the right paper isn't loaded in the printer or it's in the wrong drawer, the job won't print because I've set the workflows up to look for a specific paper in the catalog and in a specific drawer. Fiery Command WorkStation or Fiery Ticker software will tell the operator what paper it needs."

Ag Spectrum now has more than 95% of its print jobs automated with Fiery API. The difference has been easy to see. "It's made our workflows more efficient. Before we automated with the APIs, I had to touch every order," says Macomber. "Streamlining the process has allowed us to get things out quickly too. We can literally print two minutes after someone orders something. And I could teach anyone in the office the basics of doing it in no more than 10 minutes."

He says the company's in-house designer uses some of the template parameters to set up new pieces. After that, it only takes him an hour or so to set up a new workflow if needed. Then, "at that point, our accounting person helps out with the printing."

Savings:

"The cost savings of using Fiery API automation was enough to justify the move to a bigger press."

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Future plans

Ag Spectrum plans to continue doing more complex tasks on customized pieces. Fiery API will be central to that, too.

Macomber explains, using the example of a piece Ag Spectrum currently produces. "We have one piece that's particularly high value for dealers. If they have a prospect they want to sell our system to, we want them to be very professional when they meet with the farmer. So we produce a customized pocket folder. We use a folder blank. It's custom printed with the farmer's name and their farming operation. It has a file page about the dealer on the inside, a marketing piece that explains us, and a pocket for additional information.

"This used to be a complex piece for us to make because we had to print each piece separately and change the paper. We then re-loaded the cover again to print the body, which was actually stapled in like a booklet, using the folder as a cover. There were three different jobs and manual operations to load them. With the API, we send that as one job now."

Macomber says the Fiery API is very simple to work with. "It's like a toolkit that you can just use. It's more complicated to set up the Fiery presets and preferences. I think it's really useful for corporate users who want to integrate custom systems."

He expects future jobs to be just as easy. "After you learn how to use the APIs, you can do lots of complex and really useful things. I just had to learn how to translate the attributes and values in the API into ones that would work with the Fiery server. How do I set this option in the API? Set what you want in the RIP through Fiery Command WorkStation, then look at the results, and it'll tell you how to set it in the API. It's that easy."

Result:

"It's made our workflows more efficient. We can literally print two minutes after someone orders something. And I could teach anyone in the office the basics of doing it in no more than 10 minutes."

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