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Firefly Digital Tackles Ed Tech with Containers

The digital agency's SaaS-based school application platform needed scalable, secure infrastructure to meet spiky demand patterns and to support innovation.

Our customer

Firefly Digital is a full-service digital marketing agency and the developer of Smart Choice, a school application processing tool that supports millions of students around the world.

The obstacles they faced

Dedicated servers were unable to provide the scalability and flexibility needed to support seasonal spikes and drive innovation for the Smart Choice app.

How we helped

Business/IT Transformation; AWS, Professional Services — Migration, Service Blocks — DevOps Transformation with Container Enablement

What we achieved together

AWS-based containers give them more control over resource allocation and automated plans enable fixes and upgrades to deploy in minutes.

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"A lot of it was done by hand before. Now, we can rely on knowing that after finishing a task or doing a fix, with the push of a button, it'll be deployed out to the system in about six minutes"

**August Montalbano
Senior Software Developer,
Firefly Digital**

Digital agency breaks into ed tech

Founded in 1998 by Mike Spears and Bill Dalton as the "ad agency of the future," Firefly Digital provides innovative digital marketing solutions. As pioneers in the digital space, it was one of the first agencies in its area to move beyond just putting pretty pictures on a page and into building data-driven websites. Combining brilliant marketing, dazzling creative and powerful technology, the agency serves diverse clients including Reily Foods Company, Slemco electric utility and the Lafayette Economic Development Authority.

In addition to its digital marketing services, it also supported the development of Smart
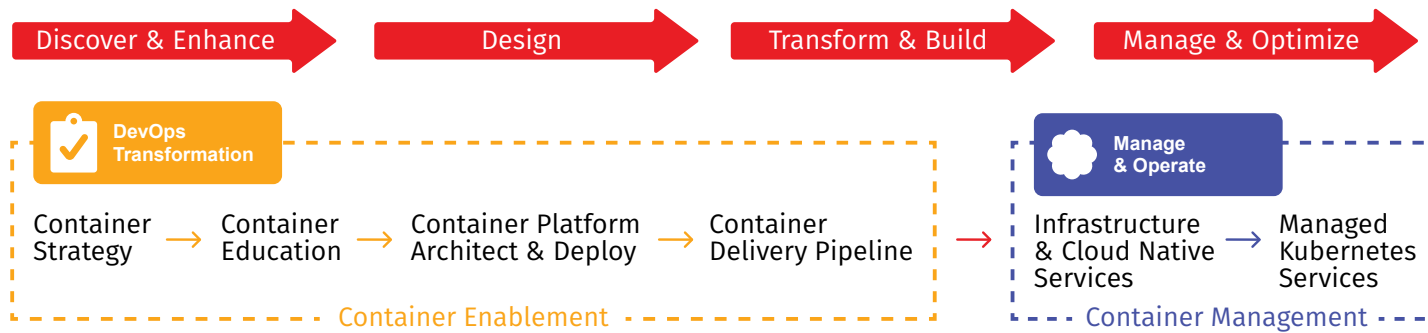
Choice, a school application technology platform. Smart Choice is used by individual schools, charter school networks and large school systems to streamline the K-12 application process. The platform provides a complete suite of tools to accommodate end-to-end workflows for comprehensive and integrated admissions processing, including enrollment (registration, re-enrollment and transfers), school choice, unified enrollment and early childhood education solutions. Over 4.5 million students at 6,700 schools in over 2,400 cities around the world use the solution. EdTech Digest awarded Casey Bienvenu, Chief Platform Architect and creator of Smart Choice, with a 2019 Trendsetter Award for his work on the platform.

AWS: The right choice for Smart Choice

The application initially lived on dedicated gear. But as it rapidly grew from 20 schools to thousands of schools and nearly five million students, Smart Choice needed more flexible infrastructure to manage seasonal spikes. Throughout the year, it would experience ebbs and flows during school application and enrollment periods. The team would use large dedicated servers to handle the traffic peaks, but at the valleys, those resources would mostly go to waste. The time and effort required to spin up dedicated servers wasn't conducive to fast scaling or quickly getting new releases to market. In addition to scaling issues, its rapid growth also meant improving security to better

protect sensitive student data, adhering to various compliance regulations for differing school districts and constantly enhancing usability and reliability for users.

Before engaging with the Rackspace Professional Services team, Firefly Digital had already determined that AWS would be its path forward. "Our old way of doing things with one big dedicated server running all of our systems couldn't adapt to our growth at the end of the day. We believed that AWS would help us scale more efficiently," explained August Montalbano, Senior Software Developer at Firefly Digital. But because it was so focused on solving the technology needs of their clients, it had limited time and resources to make the sweeping changes needed to execute a transformation

Flow diagram

Discover & Enhance → **Design** → **Transform & Build** → **Manage & Optimize**

DevOps Transformation

Container Strategy → Container Education → Container Platform Architect & Deploy → Container Delivery Pipeline

Container Enablement

Manage & Operate

Infrastructure & Cloud Native Services → Managed Kubernetes Services

Container Management

Professional services brings expertise

Choosing to partner with Rackspace to solve its scaling issues was a no-brainer. The agency has worked with Rackspace since 2004. "Over the years, every time one of our IT managers entertained the idea of working with another provider, it was just a complete disaster. And every time, Rackspace was consistently there. And that's why, without a doubt, once we knew you guys were supporting AWS transformations, you were our first choice," recalled Bill Dalton, Founding Partner and Vice President at Firefly Digital, which owns the Smart Choice app.

Though they were prepared to implement a pure cloud solution, the Rackspace Professional Services team had a better solution. The Rackspace Professional Services team evaluated Dalton's initial goal of having a purely cloud-based environment but found challenges with that approach. "They recommended an AWS-based container system that not only provides a scalable level of computing services, but also delivers a highly secure environment and a seamless path for deploying upgrades," said Dalton.

More than just an AWS implementation, the heart of Firefly's solution is Rackspace Service Blocks™. With this model, you can tailor the services you consume at each stage of your cloud journey. Paired with expert guidance, Service Blocks let customers, like Firefly Digital, create customized solutions to address specific cloud needs and meet changing requirements. "Our solution was based on Service Blocks,

primarily Dev Ops Transformation with Container Enablement," Dalton explained. Its container architecture was custom-built for practical, ongoing management which results in a seamless handoff.

Support backed by expertise delivers a Fanatical Experience

During the planning, implementation and deployment process, Rackspace Professional Services, including Jacob Liscom, a Delivery Architect on the Application Transformation team, were with Firefly Digital every step of the way. "The best part about it was that we were able to have weekly meetings. I was given limited access to the Rackspace Slack so that Jacob and I could talk directly. He was extremely responsive, and I think that's what contributed to the ease of the process," said Montalbano.

Even when it looked like they wouldn't be able to fully implement the AWS solution in time for peak season, the Rackspace Professional Services team designed and implemented an interim solution to meet demand, without sacrificing performance or customer experience.

"We realized that the best performance would be achieved if Rackspace could come behind us and make sure that we were able to get the hardware and software solutions. And as always, Rackspace delivered the performance we needed 100%," said Dalton. Montalbano added, "Each time we run tests with AWS, it's always infinitely faster and infinitely easier to use."

Rackspace saves the day

"Rackspace had our back and got us past these giant launches of big systems that would have overwhelmed us. So as always, Rackspace saved the day," said Dalton. Through planning, implementation, migration, ongoing management and optimization, the Service Blocks model provided a solid foundation and framework for Firefly's move to containers and beyond.

With their AWS-based container solution, they don't have to dedicate hundreds of hours of resources to updating systems and moving them off of aged-out heavy metal servers. Its new process eliminates the big hassles so that the team can focus on new products and innovations on a scalable, secure and high-performing platform.

Dalton added, "If you've got a team of AWS engineers in house already, and everybody's handling all their duties, and you've got all the time in the world to deploy this thing yourself – go for it. But if you're a regular company out there whose budgets are strapped, you're handling the day-to-day, and you need to bring in a provider that can plan and execute it right, Rackspace is the best.

About Rackspace

Rackspace is modernizing IT in today's multi-cloud world. By delivering IT-as-a-service, we help customers of all industries, sizes and locations realize the power of digital transformation without the complexity and expense of managing it on their own. Our comprehensive portfolio of managed services across applications, data, security and infrastructure on the world's leading public and private cloud platforms enables us to provide unbiased expertise. Rackspace has been honored by Fortune, Forbes, Glassdoor and others as one of the best places to work.

Learn more at **www.rackspace.com** or call **1-800-961-2888**.