

Success Story

EXACTUALS LLC

Knowing that the future of banking software would be based in the cloud, Exactals deployed their business on Amazon Web Services (AWS) to fulfill the on-demand capabilities and scaling needs their business plan called for.

Mike Hurst
Founder & CEO

FINANCE

Highlights

- Industry:** Finance - Residuals & Royalties
- Problem:** Go Faster, Support 1000% growth
- Solution:** Deploy on GIT Pull Request, Integrated APM into release process, Hashicorp Terraform
- AWS Tools:** EC2, ECS, Aurora, Glue, SQS, SNS, SES, IAM, Cloudtrail, Cloudwatch, Cloudfront, Lambda, Step Functions, API Gateway
- Outcome:** 2000% increase in release cadence

The Company

Film, theater, music and television are great because, if only for a moment, they give people a reprieve from the ordinary. But the talented artists who produce these works are just that: people.

Behind the scenes, they have to get paid. Exactals co-founders Mike Hurst (CEO) and Jason Hiller (CTO) have flipped the script on that complicated process. Having worked extensively with the major studios and guilds in the industry, in their former roles at a Fortune 500 software company, they've conducted thorough analysis on the industry's payment pain points. Exactals helps companies process high volumes of payments through their flagship product, PaymentHub.

PaymentHub manages many forms of complex payments (residuals, royalties, marketplace payments, and more), all of which have the same essential requirements for success: Security, Accuracy, Transparency, and Speed.

Identifying the Challenges

Building on their success in 2018 with a successful acquisition by City National Bank, the leadership team set their sights on growth and expanded markets.

With an expected increase in payments and new users in 2019, Jason lead the Application re-design of the PaymentHub platform ensuring that it could meet the stringent SLA's required in a demanding industry. The new platform required a complete re-write of the user sign up process and Exactals looked to HATech to guide them through implementing new technologies from AWS that could help.



Target

Adding new markets required greater innovation and greater demands. Releasing new software couldn't affect payment processing.



Development

Needed to support the development process on new technologies and make them available to the development and QA Teams.



Integration

New Technologies meant new deployments. Needed to be integrated seamlessly into the pipeline without affecting the release process.



The Solution

Like with any financial application there are quiet times and there are busy times. To support the unpredictability of the payment processing, a serverless strategy was adopted that would allow PaymentHub to scale almost instantly without the headache of trying to plan usage patterns that are typical in auto-scaled applications.

The more challenging aspect of scaling the platform was to support a complex and highly secure User Registration process. A complex workflow was required to support users signing in from different platforms, requiring users to pass a secure Customer Identification Program to ensure users are who they say they are.

Adopting a transaction-as-a-service model, PaymentHub could go from 1 to 1000 concurrent transactions without being caught off-guard. Coupling a serverless model with AWS Step Functions allowed the operations teams to ensure users weren't experiencing any issues during the sign-up process while allowing the customer service teams to instantly work with customers should any problems occur.



Advanced
Consulting
Partner

Solution Provider

Results



Jason Hiller
Co-Founder & CTO

After a 3-month effort the changes were implemented ahead of schedule ready for the new users. With 1000's of executions per minute new users were added to the platform through the new serverless and step function workflow. Whats more important, the new users were added to the platform completely unaware of the engineering effort that went in to meeting this amazing milestone.

More Information?

Tab Wearing
Engagement Manager

e: twearing@hatech.io
c: 702 788 7150
a: 350 S Mill Ave, #B-201
Tempe, AZ, 85281



By expanding the existing pipeline, and building upon the current Terraform, the Exactuals development team were able to deploy new changes into the new Lambda and Step Functions within 5 minutes. For long-running workloads that were triggered by Step Functions, docker containers acting as worker nodes were deployed receiving their payloads through AWS SQS allowing the docker containers to be de-coupled from the rest of the platform.

The entire platform could scale to meet demand by monitoring the queue depth of the workers activity queues. Coupling this with measuring the latency of the lambda response times as monitored by Dynatrace ensured the platform could respond as needed.

AWS Lambda

500m
Invocations

Serverless

A compute model in which the cloud provider runs everything necessary to support an executable piece of code. All a developer has to worry about is their code and the cloud provider runs everything else. Suits use cases such as transactional, short-lived & highly parallel processes.

AWS Step Functions

51m
Executions

State Machines

A workflow model enabling the coordination of multiple services. Users can query the state machine execution as it happens providing realtime monitoring of complex flows. AWS Step Functions automatically trigger and track each step and retries when there are errors.

AWS ECS

1.2m
Containers

Containers

A method of bundling application and configuration dependencies in to a deployable artifact that can be shipped, and deployed. As no OS dependencies are required, the artifact can often be less than 100MB. Developers and Production can share the exact same code without worrying about drift.

AWS Resources

8,500
Managed

Resources

Amazon Web Services (AWS) offers reliable, scalable and inexpensive cloud computing services. Services include Virtual machines, messaging, Storage, Workload migration, Databases, Data Analytics, Machine Learning & AI and others. HATech manages and supports 1000's of resources.