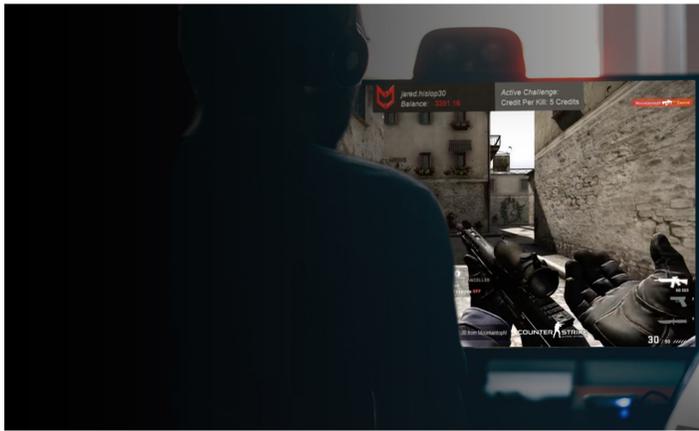


Case Study: Rapid Assessment and Strategy

Sanity check, risk assessment and go-forward strategy for existing and future cloud-deployed applications while taking first steps all in a compressed timeline.



Industry: Gaming and Entertainment
Location: San Diego, California

Company Bio

Today players of online games compete and trade digital assets ("skins") as an alternative to direct money transactions. Because there's a fluctuating market to convert each skin back into cash, this method of gaming for profit is a risky endeavor. In addition to value uncertainty, the process is also difficult and time consuming for players to arrange matches and skin exchanges. Despite this is long, drawn out, complex process, skins "trading" is utilized by millions of people and is expected to grow to \$12+ billion per year by 2020.

Challenger turns 5 difficult steps into one transparent, real-time, streamlined process inclusive of automated score keeping and payouts across multiple games.

Their on-demand client application automates the process, enabling challengers to play when and how they want. Challenger introduces a new approach to gaming which enables casual and professional players to easily compete on a level field.

Overview

Challenger Interactive was preparing for their imminent production launch and needed a solution that both helped them move forward quickly while planning for future growth. With multiple teams working on an existing base of applications, the overall solution needed to build a strategy which aimed at rapid deployment within a budget.

Broadly, Challenger Interactive needed IntrospectData to assess their existing processes and recommend as well as implement changes that would increase efficiency while maintaining company trajectory.

"We went from being fundamentally unable to deploy code on-demand to smooth and easy production releases. Never had a syntax error again after deploying through this one of a kind process."

*- Jared Hislop,
Senior Product Manager
Challenger Interactive*

What Did We Accomplish?	Items Assessed in Two separate AWS accounts	Deployable Applications In Multiple GitHub Repositories	Effort Reduction From Development to Production
	300+	10	-80%

The Challenge

The initial request from Challenger was to look at their AWS accounts and provide a sanity check and validation of their existing deployment(s).

Challenger had an existing base of applications with multiple teams and had started to leverage Amazon Web Services (AWS) with multiple vendors to attempt to coordinate within a 'wide open' field. With a set of Java-based HTTP and background processing services, multiple NodeJS components and a Winform client application written in C#, the variety of languages, techniques and patterns were just as diverse as the ways they were being managed in production. Challenger engaged with IntrospectData to understand, assess, and provide recommendations on how to bring a set of prototype and early development projects that launched their company into focus for real-world production usage.

The Approach

We split the work into two time-boxed efforts and spent the first 20% of that time digging into the current state of the system and building a plan. Once we had gained access to Challenger's AWS and source code management environment(s), we started assessing the basics from account management and resource security to application management best practices. The overall model assessed the deployment at multiple levels from cloud and infrastructure best practices to application deployment and development patterns.

The remaining time was spent implementing repeatable process and solutions to both resolve critical needs identified in the initial assessment, but also to align and prepare Challenger for operating a live production environment.

Reinforcing Basic Needs:

- Automation-based solutions were highly desirable to allow for greater repeatability and consistency. Infrastructure as Code and Configuration Management tools were the two critical new capabilities added to achieve this.
- Durability and Availability were two key measures that each application was measured by and quickly re-architected to achieve using EC2 instances in Auto Scaling Groups with HTTP Load Balancers wherever feasible.
- API and Application-level security were seen as critical needs and were secured and mapped using Kong's open source API Gateway.
- CI/CD was added as a core component of the code workflow, managing the compilation, testing, packaging and deployment of resources into environments in a consistent, secure and highly visible manner.

The Solution

The team started with documentation that served as a collaborative space to identify opportunities for improvement and strategies for more directly leveraging the AWS platform wherever possible.

This document identified current and future critical path needs while allowing the Challenger team to see progress and internalize the needs through active participation: asking questions as we worked together to form the overall plan. Unique to IntrospectData, including the application structure and a high-level analysis of the code itself, the results of the analysis spoke both to how to level-up the existing systems as well as how to build and write software to best take advantage of the AWS platform.

From a holistic view of the system at large, we worked to share to-be architecture that incorporated pragmatic DevOps, CI/CD and high scale automation patterns and practices to reduce the total operations cost while improving the flexibility and agility of the overall solution.

The remaining effort focused on tangible deliverables which formed the foundation of their go-forward strategy and were designed to reinforce several basic needs

The IntrospectData team helped build technical architecture best practices from a high-level / per-language basis while providing the 'why' behind choices meant to balance cost, availability, and performance in a meaningful way. Based on recommendations related to application architecture and future feature planning for the Challenger platform, IntrospectData provided a set of recommendations for emerging technologies to consider including Docker and Kubernetes as meaningfully aligned to their to-be architecture which would offer a number of automated and code-driven solutions to help maximize the benefit of being on the cloud while providing their application developers greater flexibility in the future.

The Results

The initial assessment of 150 data points in two separate AWS accounts as well as 10 deployable applications in multiple GitHub repositories took less than a week to complete. True to our pledge to move rapidly through the initial phase, IntrospectData produced a plan that not only addressed the short-term needs Challenger was aware of, but also started to build long-term vision for technology planning and standards that reinforced the long-term need for efficient operations that heavily leveraged automation to deliver it.

Over the following 6 weeks, IntrospectData was able to deliver an end-to-end redeployment of the Challenger solution that was consistent from development to production and incorporated CI/CD capabilities to build greater visibility into the health of the overall deployment pipeline. Time from development to production was reduced by 80% and overall build consistency increased as developers were able to more rapidly get feedback on their code. IntrospectData's team provided guidance and hands-on engineering effort to build Infrastructure as Code, configuration management and even application-level code to accelerate Challenger's velocity and help them to build faster and more consistently.



About IntrospectData

We are engineers, admins, product managers, and leaders who spend every day looking for ways to drive radical change and simplicity via automation, data analysis and modern systems design. We offer a unique blend of platform, products, and service-based capabilities to help organizations stay competitive and focused on what really matters to their success.

IntrospectData.Com

