

DraftKings adopts a DevOps playbook

DraftKings delivers premium customer experiences with New Relic and AWS

DraftKings is an innovative sports-tech and media entertainment platform with nine million registered users who participate in daily fantasy sports contests.

DraftKings by the numbers:

- Over 9 million registered users
- 1 million API requests per minute
- 22,000 entries per minute
- 60+ microservices

DraftKings subscribers are highly engaged, spending above industry-average monthly hours with the entertainment platform via both desktop and mobile. As DraftKings continues to grow its core subscriber base and deliver complementary services to build its audience, the organization needs to ensure it can deliver features quickly and reliably. Through adoption of an evolved DevOps culture, and enabled by New Relic and Amazon Web Services (AWS), DraftKings can deliver new features customers love, with confidence and at scale.

A shift to DevOps

New Relic helps drive a common understanding of the metrics DraftKings needs to align, execute, and improve its front-end customer experience. Using New Relic, DraftKings stays focused on customer engagement instead of potential application issues, while AWS services deliver infrastructure performance and security to power the entire sports-tech and media entertainment platform. Embracing a DevOps culture, including microservices and continuous delivery, allows DraftKings to iterate its services and deliver excellent fantasy sports experiences for its customers.

Rapid iteration: moving fast with confidence

DraftKings ensures reliability and availability for its front-end customer experience using New Relic, supported by AWS, for performance and scalability. Using New Relic data, DraftKings can quickly deploy new features, products, and engagement techniques for users across mobile and web offerings. This is complemented by real-time performance feedback gleaned from Amazon Elastic Compute Cloud (EC2) and Amazon Relational Database Service (Amazon RDS).

This model of continuous delivery and agile adaptation enables DraftKings to



Enabling continuous delivery and ownership backed by a DevOps framework

New Relic delivers:

- **Observability:** Instrumentation of its front-end customer experience enables DraftKings to conduct informed root-cause analysis, prevent incidents, and maintain a low mean-time-to-resolution (MTTR) for any issues discovered in production.
- **Adaptability:** Powerful intelligence enables DraftKings to rapidly deploy new features and get real-time performance feedback.
- **Alignment:** Actionable insights delivered via sophisticated dashboards and alerts enable DraftKings to drive a DevOps culture of common understanding, accountability, and continuous feature delivery.

Challenge

DraftKings wanted to expand agile adoption across multiple teams and apps, instill autonomy and responsibility across development teams, move from monolithic to a microservices-oriented architecture, and ensure it was always ready for the busiest traffic days.

Solution

DraftKings ensures reliability and availability for its front-end customer experience using New Relic, supported by Amazon Web Services (AWS), for performance and scalability. Enabled by New Relic and AWS, DraftKings embraces a DevOps culture to deliver new features customers love, with confidence and at scale.

Results

- Empower teams, use time efficiently, and reinforce autonomy.
- Drive consensus, a performance culture, and improvements via iteration using common understanding and metrics.
- Experiment and test out functionality and continue to move quickly, using toggles.

deliver continuous value to its users and ensure reliability and availability for its front-end customer experience.

Performance monitoring: measuring early and often

New Relic Insights and alerts help drive a common understanding of the metrics DraftKings needs to align, execute, and improve its front-end customer experience. These insights help DraftKings keep teams informed, focused, and able to track key performance indicators (KPIs) and critical business events – such as when athletes make a play that will drive fantasy players to DraftKings’ site and apps. Using New Relic, DraftKings stays focused on customer engagement instead of potential application issues, while AWS services deliver infrastructure performance and security to power the entire sports-tech and media entertainment platform.

“DraftKings plays a big role in our users’ lives by giving them a deeper way to engage with their favorite sports, teams, and athletes,” says Mark DiAntonio, who heads up the media product division at DraftKings. “The combination of New Relic and AWS has enabled our engineering teams to adopt a performance culture and take ownership of their code through the build to deployment of their product. Working with a common set of metrics, alerts, and dashboards provided by New Relic, our teams understand how their product is performing in real time and are able to manage any traffic spike from last minute contest entries to fans checking on their scores.”

Satisfying fans by continuously delivering features that work

DraftKings must continuously improve and aggressively compete in the sports-tech world. Its teams strive to ensure its front-end experiences exceed customer expectations.

DraftKings uses New Relic Browser, Mobile, Insights, and Synthetics to support its front-end customer experience. This ensures availability, reliability, and performance for DraftKings’ users – even during peak traffic times – to help the organization stay focused on user engagement versus potential application issues. These services act as a “normalizing” function for monitoring performance, reliability, and availability across these different channels and languages and bring all the data together.

DraftKings also leverages toggles, which enable the organization to modify system behavior without changing entire code and to test or release new functionality. DraftKings uses toggles for releases, operations, permissions, and experiments. Release toggles allow DraftKings to continue to ship while ensuring quality and standards. Experiment toggles, used for A/B testing, enable DraftKings to conduct simple and complex tests, such as button placement or updating UI on user-generated contest screens. Permission toggles enable DraftKings to test features to specific beta groups and canary cohorts. Operations toggles, such as a “kill switch” in DraftKings’ Billion Dollar Lineup contest, help ensure the company can take down intensive, less-critical features while keeping other contests online.



New Relic offers solutions for observability, adaptability, and alignment

New Relic helps you see changes across your digital application stack, infrastructure, and customer experience. You can capture real-time insight and detailed performance metrics from deployments and configuration changes. Then share those metrics with your DevOps teams, so everyone can speak from the same point of reference.

New Relic offers tight integration and instrumentation for 31 AWS services, including AWS Lambda, Amazon EC2, Amazon CloudWatch, AWS Elastic Beanstalk, Amazon Simple Email Service, Amazon Aurora, Auto Scaling, and AWS CloudTrail.

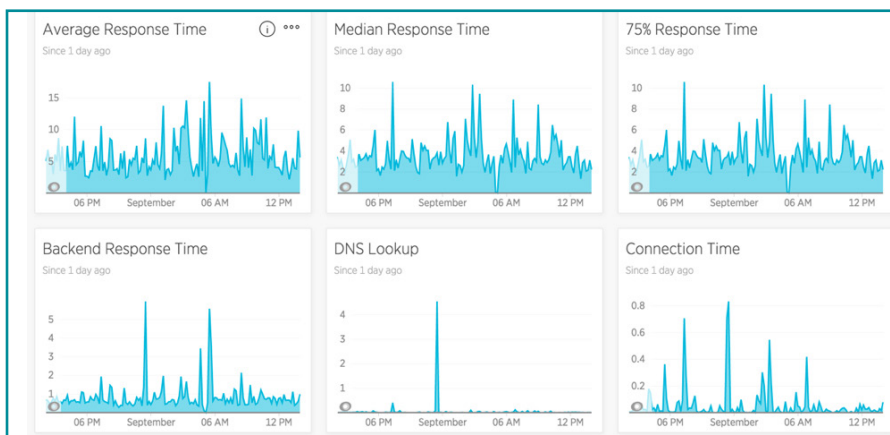
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Mark DiAntonio
Head of Product, Media, DraftKings

DevOps practices at DraftKings

DraftKings runs a highly evolved engineering organization, leveraging microservices, DevOps, and continuous delivery to provide its users with the best possible customer experience. As a DevOps organization, its teams own responsibility for building, deploying, and scaling apps using AWS. The company also owns the process of monitoring and alerting.

For example, when a team goes to deploy a microservice on AWS, written for DK Live, it deploys with New Relic as part of the deploy package, and leverage New Relic Insights to gain visibility into what's happening with the microservice. New Relic alerts tell the team if an incident has occurred, and each team is accountable for resolving issues. This makes for an extremely agile, quick development organization.



Enabled by New Relic and AWS, DraftKings leverages a DevOps culture to:

- Empower teams, use time efficiently, and reinforce autonomy.
- Use a common understanding to drive consensus, a performance culture, and improvements via iteration.
- Effectively layer in toggles with experiments to test out functionality and continue to move quickly.

Quick pivots and rapid changes enable excellent digital experiences

DraftKings' DevOps mindset helps the organization move faster with agility and intelligence and drive a culture of awareness and accountability across teams. DraftKings' DevOps foundation helps the company remain in the sports-tech and entertainment game.

Learn how you can achieve a high-performance DevOps culture that can scale as your business grows and maintain a superior digital customer experience with AWS and New Relic, [available in AWS Marketplace](#).

ABOUT NEW RELIC

New Relic provides the real-time insights that software-driven businesses need to innovate faster. New Relic's cloud platform makes every aspect of modern software and infrastructure observable, so companies can find and fix problems faster, build high-performing DevOps teams, and speed up transformation projects. Learn why more than 50% of the Fortune 100 trust [New Relic](#). New Relic is a registered trademark of New Relic, Inc.