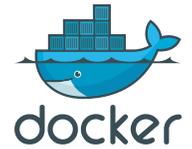# New Relic Scales Their Software Platform Quickly with Docker and Creates New Tools Designed For Dockerized Applications

Making Data Nerds Out of Every Developer

New Relic approaches the transformation to distributed applications as an opportunity to help companies understand this dramatic change by making sense of the trillions of events generated by all those new microservices. With monolithic applications being broken down into lots of small services that scale up and down instantly in the cloud, both the quantity of data and the means to correlate it have become more complex. New Relic's mission is to help every organization make better business decisions about their applications by transforming users into what they lovingly call "data nerds."

By The Facts

75+
Production Apps

20x
Faster developer setup time

Meeting Customer Demand with Scale, Growth and Innovation

As New Relic anticipated their future growth, they saw it as an opportunity to rethink their own application architecture. This led New Relic to morph their existing monolithic application components into a service-oriented architecture with a goal of increasing their number of software deployments each day. At the same time, they were planning to greatly increase their infrastructure and launch new products and features into the marketplace. As a SaaS company, these transitions were not taken lightly, as any changes to the existing infrastructure and services instantly touches their customers.

> "To prepare for the release of New Relic Insights, we needed a way to quickly scale our infrastructure, and running our production applications in Docker made that really easy to do."
>
> **– Sean Kane**
> **Lead Site Reliability Engineer**

Delivering a New Deployment Pipeline

To aid in this transition, the Site Engineering group, including Karl Matthias and Sean Kane, along with several product teams, started to investigate Docker, the open platform to build, ship and run distributed applications. As early adopters of the Docker platform, the team even custom-built an open source project called Centurion as a deployment tool that contributed to the Docker community. That tooling was integrated into their original proof of concept deployment pipeline, which was built on Docker and formed the platform for their new application release process.

Scaling Applications and Creating New Businesses

Today there are over 75 New Relic production services that run on Docker both in New Relic's own data center and in the Amazon Web Services cloud. Containers are always spinning up and down depending on what new features are being deployed and each application team is able to deploy containers on demand. The company is realizing benefits that span across both their development and operations team.

Docker is designed to remove the requirement to make application-specific configurations for each server, and therefore save an immense amount of time in the traditional back and forth that occurs between the development and operations teams to share information. It also is designed to enable engineers to iterate faster, knowing that what is shipped and runs in production is exactly what they built and tested, including all of its dependencies. Engineers have also set up environments in an hour or less versus what could previously easily take an entire day. No more reading long documentation and going through many steps of cloning multiple repos, pulling configurations and installing lots of components locally. While also trying to keep everything segregated to avoid conflicts any time the engineers wanted to work on a different project. With Docker, everything is in the container and can spin up and down very quickly, with the goal of allowing engineers to quickly transition to different projects. The environment is now standardized yet flexible and scalable in a way it previous was not. In part due to the removal of these inconsistencies and the empowerment of engineers, the team greatly exceeded their planned targets for releases per day to now enabling hundreds of engineers to deploy at any time.

Being a firm believer in the value of their tools, the New Relic team used its own software analytics platform to start monitoring the Dockerized New Relic production applications. Through this they took what they learned about Docker and turned that into innovations for their monitoring solutions. New Relic's product line is now designed to monitor not only the application code level, their traditional area of expertise, but also monitor the Docker hosts, images and providing linkages between all three layers. This provides Docker aware application monitoring, with the goal of enabling customers to rapidly determine at which layer customer experience issues are caused to quickly restore service levels.

> "Our own transition to Docker spawned the idea to natively add the Docker aware monitoring capability into New Relic. Our products are now designed to correlate information from the Docker server and the processes inside the container in order to help people better understand their applications."
>
> **– Karl Matthias**
> **Lead Site Reliability Engineer**

docker

Benefits Summary

- **Ship More Software Faster:** Empowered developers to iterate faster and with assurances that what runs in production is the exact code they shipped.

- **Remove Developer Roadblocks:** Eliminated frustration and improved productivity by streamlining the setup time, in some cases from one day down to one hour.

- **Operations Efficiency:** Less involved in application deployments and debugging, allowing for more focus on site reliability and process improvements.

- **Instant Scalability:** Enabled New Relic to quickly scale infrastructure to meet increased customer demand.

- **Application Lifecycle Ownership:** Helped allow teams to own the entire lifecycle of their application from development to production. Issues could be isolated and remediated faster and each team had far greater access and control of their system.

- **Innovate Their Business:** Docker-aware tooling is now built into New Relic to not only monitor New Relic's internal application development process but to also provide monitoring capabilities to its customers.

www.docker.com