

Use New Relic's observability to power DevOps speed and agility

Stay on top of your Amazon Web Services (AWS) CI/CD pipelines, measure team performance

DevOps—Critical for cloud success

Businesses adopt the AWS Cloud to enable rapid innovation, instantaneous scaling, optimized costs, and true business agility. To achieve these goals, technical teams must move faster by embracing modern technologies and processes that allow them to develop, deploy, iterate, and scale faster. Investing in a robust DevOps strategy is key to success. The definition of DevOps has expanded to include the processes, culture, and mindset used to shorten the software development life cycle using fast feedback loops to deliver features, fixes, and updates more frequently.

Here's a quick sample of issues facing DevOps teams:

- How do you quickly get to the root cause and automatically fix a build failure in one of your pipelines?
- How do you trace a surge in application response time or error rate back to a bug introduced after a recent build?
- How do you determine if one of your microservices resulted in the failure of the larger customer facing API or service, with so many interdependent CI/CD pipelines involved in the process of releasing each one of these microservices?
- How do you determine which features your developers are spending the most time on? How do you measure developer team productivity?
- How much time do your developers spend on peer code reviews?
- How do you [shift left](#) security and vulnerability testing and automate synthetic end user testing as part of your CI/CD pipeline much like you do unit and integration testing?

Today's Reality for DevOps teams

- While Continuous Integration and Continuous Delivery (CI/CD) practices enable the DevOps teams to rapidly deliver at scale, the agility comes with the cost of [increased toil and complexity in monitoring](#). It's critical to measure key performance indicators (KPIs) for DevOps success at scale, while continuously optimizing developer productivity and building a culture of trust and psychological safety. This is further complicated by the rapid innovation in software development patterns—particularly microservices, containers, and other distributed architectures.
- The surge in cloud native and hybrid cloud adoption has resulted in a siloed assortment of cloud native, Open Source Software (OSS), homegrown or Commercial-off-the-Shelf (COTS) software point-solutions for enabling and monitoring CI/CD practices. This fragmented tooling makes it difficult to scale, creates blind spots, and makes it even more difficult to collect troubleshooting information across a wide variety of sources and tooling. The complexity can be staggering for DevOps teams.
- With rapid innovation in software deployment practices like [feature flagging](#), [canary release](#), and [blue-green deployment](#), it can be harder to monitor the ever-increasing frequency of deployments.

KPIs for measuring DevOps teams

According to the 2019 [DORA](#) report, you can prioritize these four metrics to measure the effectiveness of your development teams:

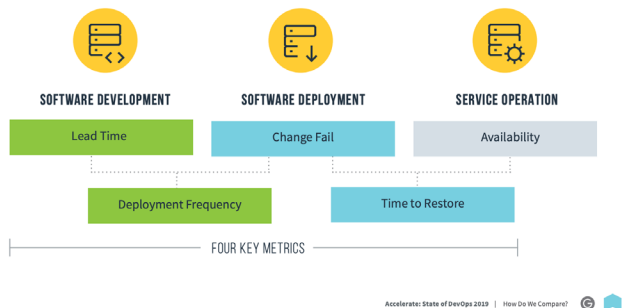
Speed/ Agility

1. **Lead Time for Changes:** The time it takes to go from code revision pushed to the source control repository to code successfully deployed to production.
2. **Deployment Frequency:** How often the code is deployed to production.

Stability/ Reliability

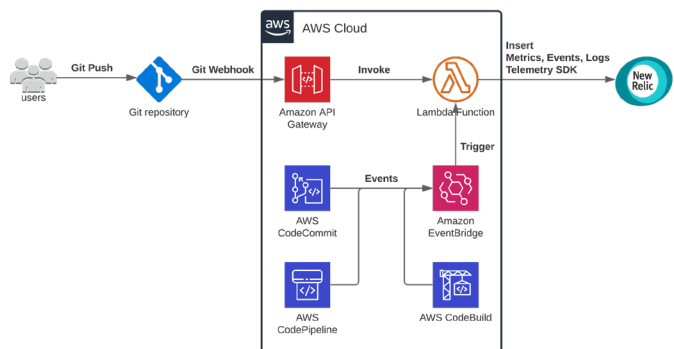
3. **Change Failure Rate:** Rate of deployment failures in production that require immediate remedy.
4. **Time to Restore Service (MTTR):** The mean time to recover (MTTR) from failure in production.

PERFORMANCE METRICS



Solution Architecture on AWS

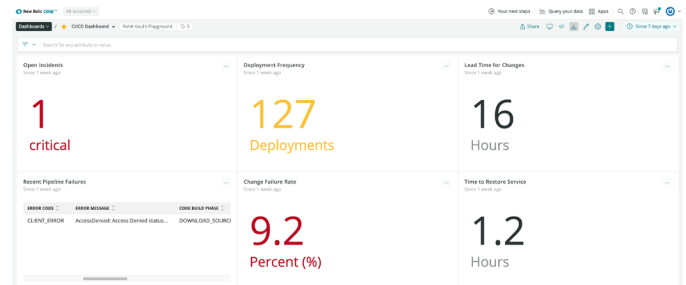
The graphic below depicts how you can get events from your CI/CD pipeline into New Relic. Using webhooks, you can easily track events like deployment frequency and lead time for changes.



Stay on top of your CI/CD Pipelines with New Relic

Sustained developer productivity with CI/CD Pipeline observability

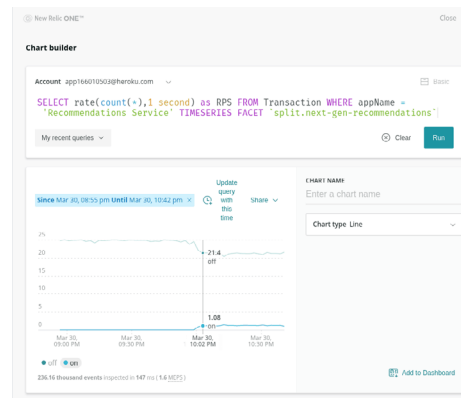
With seamless integrations for a wide array of popular source control and CI/CD tooling, New Relic helps you track a variety of key metrics derived from these tools.



New Relic allows developers to deploy rapidly while also enabling observability across code quality, pipeline performance, and Software Delivery performance metrics for insights to improve CI/CD scale and efficiency.

Immediately understand the impact of a feature flag.

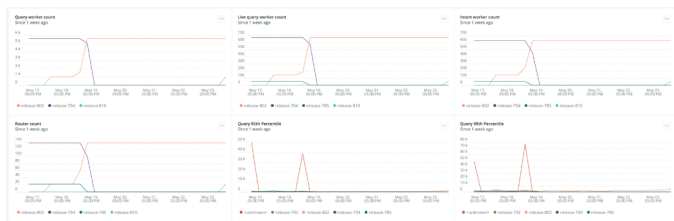
By pushing [feature flagging](#) metadata into New Relic, you can immediately visualize the impact of a feature change across your service level objectives ([SLOs](#)) in real time.



Use dashboards or build applications on New Relic to add business context to feature flags.

Track the progression of canary releases with confidence

With techniques like [canary release](#) and [blue-green deployment](#) becoming mainstream, deployment markers are not sufficient. New Relic enables you to inject [version](#) tags into your Application Performance Management (APM) and deployment events, so you can track the progression of canary deployments for your SLOs and be able to roll back changes quickly if deploys go wrong.



By tracking the number of instances reporting each canary version (in the Router count chart) we can see that this was a phased rollout over the course of 1 day.

How New Relic helps DevOps teams succeed

Regardless of whether you're operating on AWS Cloud native, hybrid, multi-cloud, or even on-premises, New Relic empowers DevOps teams with full stack observability for their CI/CD practices, resulting in sustained developer productivity, and rapid delivery of software in a reliable manner, at scale.

We have first class integrations with leading DevOps capability providers so you can easily include your chosen offerings in your DevOps tool chain. To learn more, see our New Relic Partner Network (NRPN) [blog post](#). Here are some of our technology partners:



Unleash the Power of Open Source with New Relic

Today's distributed environments are complex enough. Technology stacks often include Open Source Software (OSS) and multiple OSS monitoring tools to manage the infrastructure, which can require unique skills and training, as well as maintenance overhead. New Relic hosts and secures your operational telemetry data—from agent-based to open source instrumentation—so you can focus on running your stack simplifying OSS monitoring rather than retooling.

You can use New Relic to bolster your OSS strategy:

- **Integrate with your existing OSS toolset**, so you can retain your existing open source solutions while overcoming existing limitations of scalability, availability, and performance, and use a single source of truth to innovate faster.

- **Rationalize and consolidate your toolset**, so you can remove technology redundancies, improve team productivity, and reduce operational costs and technical debt.
- **Adopt open standards** like [OpenTelemetry](#), [W3C Trace Context](#), and [AdoptOpenJDK](#) so you can benefit from instrumentation ubiquity and interoperability while taking advantage of future-proofed solutions.

New Relic has a growing catalog of open-source apps that can enhance telemetry data visualization and analytics for your unique needs. The [New Relic One Catalog](#) provides a fast, easy way to browse through the available apps and subscribe to the ones you want, all from your New Relic account.

Developers and Observability as Code

[New Relic Developers](#) offers everything a developer cares about in a single place making it easier to build a culture of trust and create unique opportunities for collaboration.

When building today's complex systems, you want an easy, predictable way to verify that your configuration is defined as expected. This concept, [Observability as Code](#), is brought to life through [Developer Toolkit](#), a collection of New Relic-supported orchestration tools, including Terraform, AWS CloudFormation, and a command-line interface. These tools enable you to integrate New Relic into your existing workflows, easing adoption, accelerating deployment, and returning focus to your main job—getting stuff done.

Ready for a deep dive with New Relic for AWS?

Our goal is to help you build a powerful, swift DevOps team with the skills, tools, culture, and practices you need to achieve your goals. We're here to help with our [New Relic QuickStart](#) for agile DevOps teams on the AWS Cloud.