How Lightstep achieved 4x deployment velocity with Cypress

Transforming testing and increasing confidence

Lightstep's service provides companies with unparalleled visibility across multi-layered architectures, helping developers quickly detect and resolve issues. With clients like Lyft, Medium, Skyscanner, GitHub and InVision relying on the service, Lightstep needs their product to work flawlessly. A cumbersome internal QA process was complicating and delaying deployments, so Lightstep turned to Cypress for help.

Providing unparalleled insights into deep systems

Lightstep's distributed tracing products give organizations visibility into how their increasingly complex services are performing. The company's mission is to deliver confidence at scale for those who develop, operate and rely on today's powerful software applications.

Lightstep's insights put companies back in control of their software applications by providing detailed real-time performance metrics, improving developer workflows, and making problem discovery in deep systems clear and easy to resolve.

The platform supports several coding languages and processes > 800TB every day. The engineering team's role includes both front-end and back-end development, as well as quality assurance.

Validating deploys was a nightmare

Before adopting Cypress, Lightstep's engineering team was following a complex and tedious 35-step QA process in a Google Document. This provided step-by-step instructions on workflow links and what to test – taking a single engineer *two hours* to work through for every deployment.

"We had a lot of anxiety about how often we deployed and how big those deploys were. I was concerned about 95% of what was going out, and that was really hard", explains Jonah Moses, one of Lightstep's product engineers.

Lightstep's engineering team knew they needed to deploy faster, more often, and with much greater confidence; they wanted engineers to embrace testing, not avoid it.

Results & Impact

48x faster
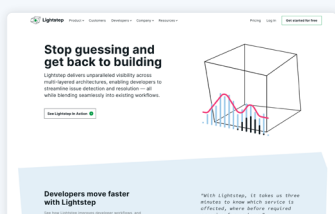deployment validation speeds

8-12k
tests run daily

80%
engineering org using Cypress

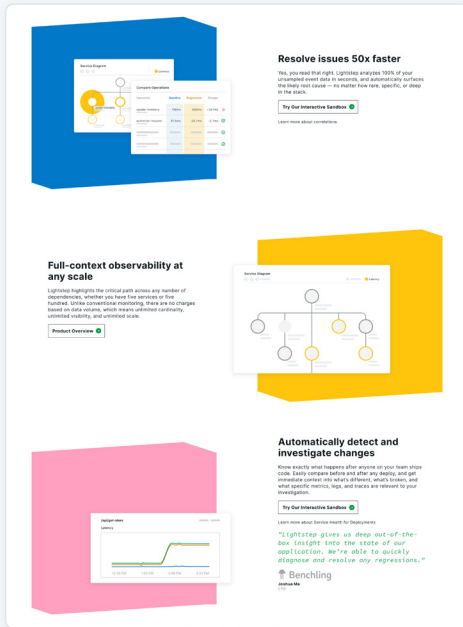**5-8**
weekly deployments

165
tests written across 36 specs

"Cypress has helped us build the confidence to deploy faster."

Ted Pennings
Product Engineer, Lightstep

How Lightstep implemented Cypress

Lightstep started by comparing the gaps in their processes with what Cypress offers. They worked out how they wanted to use Cypress, where (inside CI and CD), and how often.

Within two weeks the team had used Cypress to automate the most tedious manual tests in the Google Document – and two months in, the entire manual QA process was eliminated. After three months, Lightstep was confident enough to add PR checks and parallelization. They found it easy to implement Cypress, write custom commands, and use automation to simplify their process.

With a sound Cypress test suite in place, Lightstep was able to run Cypress tests for every deployment. Reports were set up to a Slack channel for all the engineers to see, share and learn from.

Testing — now fast, effective and easy

The engineering team's workflows have completely transformed since adopting Cypress. They have dramatically increased their deployment velocity, improved its quality, and reduced risk. Comprehensive tests are now run in multiple environments across a number of user roles, with feature flags for rapid feature development.

By automating their test suite, Lightstep has significantly lowered operational overhead, allowing engineers more time to focus on other important work. Switching to Cypress has allowed the team to deploy much more often with more confidence, as deployments are now much less stressful and time-consuming.

What's next?

The Lightstep team continues to iterate and expand their Cypress test suite. Their future plans include more complete and comprehensive visual testing of UI components like charts and tooltips, which are valuable to users. Knowing that these elements are fully tested will give Lightstep confidence that the right changes are going out.

Culturally, Lightstep is continuing to encourage distributed test ownership. "We want each engineer to feel confident in contributing to the test suite and widen our circle of Cypress test-writing champions", says Jonah.

> " Now, because Cypress makes it easy for us to deploy much more often, we're dealing with far fewer PRs each time, and we know exactly what is happening. "
>
> – **Jonah Moses**, Product Engineer at Lightstep

About Cypress

With millions of downloads and users in over 90 countries, Cypress is the leader in browser-based test automation for the modern web. Cypress enables developers and enterprises to easily, quickly and accurately test anything that runs in a browser – empowering developers to build web applications faster and better.

Using the Test Runner, developers can quickly create and run live end-to-end tests for complex user workflows and interactions, and complex scenarios in applications including e-commerce. The Dashboard service provides collaboration and sharing between teams and records screenshots, video, and test runs – while seamlessly integrating with existing tools and processes. For more information, visit **cypress.io**