CloudBees

CASE STUDY

A Global Health Services Company Sharpens Competitive Edge with Empowered DevOps Teams

Industry
Insurance

Geography
United States

Summary
This global health services company built a scalable, efficient software development platform using CloudBees CI.

Challenge
Accelerate delivery of innovative health-insurance applications with high quality and security.

Solution
Adopted CloudBees CI to support CI/CD process automation and cloud-based technology.

Results
- Improved team productivity with standardized, centralized, easily shareable code base
- Achieved higher levels of availability and scalability
- Returned time to development teams to drive more innovation
- Accelerated product development without sacrificing quality
- Created automated, repeatable processes to ease audit and compliance reporting
- Enhanced the developer's work experience

Product
CloudBees CI

The combination of consumer expectations and industry regulations are prompting healthcare companies to modernize and adapt at breakneck speed. The new healthcare consumer wants more choices and more ways to interact with their insurer and providers, including using new digital channels and tools. For this global health services company, delivering customer value through software is the linchpin of the company's mission and its competitive advantage, and DevOps is paving the path forward.

This Fortune 500 corporation is a global health services company dedicated to improving the health, well-being and peace of mind of the people it serves. The company serves more than 170 million customers in more than 30 countries, employs 74,000 people and maintains a global network of more than one million health care providers, clinics and facilities.

CHALLENGE

Staying ahead in a dynamic market
Technology is a strategic enabler to creating more meaningful connections with customers. Using DevOps principles and best-in-class tools is helping the company quickly, efficiently and securely innovate and deliver added customer value through software and solidify its position as a market leader.

"The trend is toward a more retail, online 'shopping cart' healthcare experience," says the company's director of DevOps. "Customers can pick and choose and be flexible with the plans and features they want. We're leveraging software and data to make sure we're providing the right level of services and options to our consumers. The result is more satisfied customers and, ultimately, a higher quality of care."

Supporting new levels of ecommerce and analytics, however, demands a fast-paced development environment where smaller, frequent changes are the norm and that means IT needs to move faster. "We're enabling the delivery of new business capabilities and changes to production faster, better and more securely," he says. "We're shortening the feedback loop to more quickly understand the impact of changes on our consumers and how they behave using our services." Fast, quick iterations of software, he says, results in a better understanding of the customer. The nimble changes to software can be tested quickly, helping developers continuously improve.

This need for speed comes with an added layer of complexity: audit and compliance requirements. These regulations have required the company to

balance speed, quality and security all at the same time. According to the director of DevOps, audit and compliance requirements have become paramount and transparency around all their products and processes is core to the company's strategy and execution to keep compliance and audit pass rates high.

The organization needed new tools and modern, automated DevOps processes. Until recently, developers were burdened with a slew of manual processes that slowed releases of new capabilities and application updates and were shackled with administrative and maintenance tasks that took time away from innovation. "There are a tremendous number of processes and steps that we needed to take to get to production and every step along the way had some level of friction," he says.

The company's developers weren't using consistent processes and tools across the organization, hurting productivity and making it hard to share and reuse code or for talent to move from one team to another. Without standardization, scaling was difficult at best. He noticed that although developers and teams had autonomy and control to make their own decisions, they were constrained by those same capabilities. But the biggest impact was speed to market.

"We needed to remove the cognitive load from engineers, the day to day menial stuff, and give them a better framework within which to build the solutions that drive our competitive advantage," he says.

Technology hasn't been the roadblock, but rather the hearts and minds of developers and internal stakeholders who are rooted in their old ways of operating. So, the company had to focus on making the employees an integral part of the solution.

SOLUTION

Building a highly-productive developer community

Several years ago, the IT group started adopting DevOps methods to accelerate development cycles and boost quality and compliance. Teams initially began using Jenkins tools to automate with continuous integration (CI) and continuous delivery (CD). But the group's leaders quickly saw the value of an enterprise-level version of Jenkins to solve the shortcomings of an open source approach, including lack of scalability and visibility across teams, plugin incompatibility, infrastructure maintenance overhead, support gaps and risk and compliance inconsistencies.

Developers were spending too much time maintaining the environment instead of on innovation. There was an inherent lack of repeatability. Bugs were being discovered too late in the deployment process, causing quality and customer service impacts. Plugins weren't verified and one version from one team would impact another teams' code. Authorized access by function and task was also manual, making security and compliance audits high-cost and high-risk.

When the company's employees needed support for their Jenkins environment, they relied on Google searches and external Jenkins developers for answers. The time wasted took developers away from developing code, reduced morale and contributed to employee turnover. The nucleus of the challenge, says the engineering lead in the company's DevOps Center of Excellence, was the lack of an internal developer community to create the best solution together.

"We needed an enterprise grade product to support and scale our environment, and CloudBees CI gave us a path to a centralized and standardized environment that our developers could rally around," he says. The company thought about building its own solution internally but quickly dismissed that approach. "The time and cost associated with building it ourselves just didn't make sense. CloudBees has an 'off-the-shelf' product that meets our requirements and we could implement it quickly," he says.

Just as important, the move to CloudBees helped the company create a global community of engineers who could now collaborate more closely and efficiently using community-curated, shared pipelines. "Rather than having different approaches throughout the company, we wanted to have a centralized code base that everyone could easily find and contribute to, and that was constantly being refined based on feedback from users, engineers and other key stakeholders," says the engineering lead.

It wasn't easy for engineers to get onboard with a more centralized and controlled development approach, which would change previously autonomous ways of working and shift testing activities further to the "left" – or earlier in the development cycle.

To ease the transition, leaders of the DevOps organization reached out to engineers to incorporate all of the collective knowledge across teams into a unified strategy and approach that values everyone's contributions. Bi-weekly meetings were held to share progress reports, conduct demos, and gather feedback on the DevOps initiative. Transparency with the developers was a key cornerstone to the approach. "We had open forum meetings and invited everyone to listen and contribute. It was extremely slow to start – and we knew it would be – but building consensus and inclusion with the entire team was critical to our success. There was no shortcut to that part of the strategy," he says.

UNIFYING ENGINEERS WITH CLOUDBEES CI

This company had several objectives in deploying CloudBees CI:

- Stabilize SDLC platforms to increase uptime and increase time on high-value tasks and overall productivity
- Identify and remove constraints in the value stream by reducing the lead time for new features and fixes and deliver value to market faster
- Introduce compliance, security, and governance practices earlier in the development process to decrease time-consuming and expensive changes downstream

- Increase developer use of CloudBees CI to maximize the investment in shared resource which reduces overhead costs of tool and effort redundancy and improves developer happiness

REACHING FOR THE CLOUDS

To capture more efficiencies and boost scalability, the company is also moving more of its DevOps activities into the public cloud. "We're finalizing some of our firewall rules right now to allow our core infrastructure to talk to Amazon as part of our first venture into the public cloud," the engineering lead says.

At the same time, DevOps will continue to support traditional VM-based solutions in a private cloud environment. IT leaders also see moving a significant portion of its workload to Kubernetes for both on-prem and off-prem applications. "We need a solution that will keep pace with the evolution of technology but not leave our legacy bread-and-butter VMware-based and mainframe solutions behind," he says.

The empowered culture here has given the director of DevOps and his team great freedom to solve problems through technology. "It's led to some really innovative digital solutions for our customers and creative back end solutions that are facilitating data transfer across the company."

Adds the director of DevOps: "We're changing the way we deliver software and business value here. We're trying to make it faster, better and more secure along the way. Maintaining a strong engineering culture and harnessing best-of-breed tools will be key to driving our transformation and maintaining our competitive advantage in the market."

For this company, happy engineers are a priority. "Happy developers are productive developers and productive developers create more and better solutions for customers," says the engineering lead. The company knows that its competitive advantage comes from aligning a strong engineering culture with best of breed tools to enable them to do their best work.

"The hub of our strategy is our community engagement," says the engineering lead. If we don't have happy engineers, we don't get the community engagement, which means we work ourselves back into a silo."

RESULTS

Higher availability with security

"High availability was a key reason for adopting CloudBees," the director of DevOps says. "CloudBees Operations Center as well as security-related enhancements were also important factors."

Enterprise grade platform

The company's initial foray into DevOps using the open source version of Jenkins lacked the scalability and consistency the organization needed to leverage automation to the fullest. "CloudBees CI gave us the enterprise grade product we needed to execute faster, with quality and security," the director of DevOps says.

Faster time to value

The company's DevOps leaders became frustrated with the length of time needed to operationalize DevOps capabilities through internal efforts. "Sometimes we would hit our dates and sometimes we wouldn't," says the director of DevOps. "Whereas, with CloudBees CI, we had access to a product that's off the shelf and easily deployed, allowing us to accelerate product development and innovation without sacrificing quality."

Happier engineers

"We're firm believers in a strong engineering culture and the hub of our strategy is community engagement," says the engineering lead. "If we don't have happy engineers, we won't get the community engagement we need to drive faster, better software solutions. And if we don't build an ecosystem and provide the tools to help engineers thrive once they're here, we're not going to retain them or that culture."

Better developer productivity and experience

"We're improving developer productivity and continuing to enhance their experience," says the director of DevOps. "Although we've put guidelines in place to drive consistency, we've also provided the flexibility that our teams need to customize their experience and increase productivity."

Breaking down silos

"Historically, the company has had a very siloed culture, which can make implementing changes such as centralized DevOps platforms more difficult," says the director of DevOps. "However, since we've forged relationships across teams and made sure that senior management is aware of the changes and the reasons behind them, our leaders have become really strong champions of our mission."

Greater transparency

"In our DevOps journey, we've made a point of bringing our developer community along for the ride. So instead of a Fort Knox black box approach, we've invited the community into the process, so they can be part of the solution," the engineering lead says.

Driving innovation

"The culture here has been very empowering from a technology standpoint," says the director of DevOps. "We've had a lot of leeway and a lot of freedom around how we solve technology-based problems. It's led to some extremely innovative digital solutions that have benefited our customers. Our push toward using cloud-based services is largely a byproduct of that culture."

Ensuring compliance

"Our tools and processes are designed to ensure that the languages we support from a build standpoint, the testing patterns we support from a validation standpoint, and the deployment patterns we support from a platform standpoint are all cataloged and tracked," says the director of DevOps. "We want to address the audit and compliance requirements of any change going into production and have full transparency around that process."

CloudBees CI is built on top of Jenkins, an independent community project. Read more about Jenkins at: www.cloudbees.com/jenkins/about

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