Fintech Leader Leonteq Sharpens Competitive Edge with CI/CD

CloudBees

LEONTEQ

Industry
Financial Technology

Geography
Switzerland

Summary
To sharpen its focus on building high-quality software, Leonteq adopted DevOps practices for pipeline automation using CloudBees CI.

Challenge
Accelerate and improve the quality of its financial applications while complying with industry regulations.

Solution
Adopted CloudBees CI to support implementation of CI and CD process automation and manage pipelines as code.

Results
- Shortened feedback cycle from two weeks to as little as two hours
- Faster development cycles with checkpoints
- Improved product quality
- Significant reduction in manual interventions

Product
CloudBees CI

Switzerland-based Leonteq AG is a financial technology firm focusing on the issuance of structured products and long-term retirement solutions. Leonteq has offices in 10 countries across Europe, the Middle East and Asia, through which it serves banks, asset managers and insurance companies in over 50 markets.

Leonteq's insurance partners use its proprietary platform to offer their end-clients long-term investment products that generate sustainable returns and stable income during retirement. Tens of thousands of financial-insurance policies are managed in a fully automated fashion on a daily basis. Supporting a wide range of lifecycle events and fully flexible inflows and outflows over contract tenors spanning between 10 to 50 years, tailor-made financial derivatives are used to limit investment risk for the end-client and the insurance partners.

CHALLENGE

Staying ahead in a highly regulated market
Fast, efficient software development has become a major business objective for Leonteq, helping the company stay ahead of the competition with new products to meet its customer's changing needs. The company employs a team of more than 100 software developers in that effort.

"Continuous software delivery has become a critical enabler of our organization," says Sergey Kisel, former Head of Insurance and Wealth Planning Solutions (IWPS) Development. But achieving continuous delivery has been a challenge for the company's highly regulated business. "You have to follow specific processes and document every change," he says. "You have to have an auditable record of everything."

Further complicating software development for Leonteq was still integrating manual release processes that teams had been using for years. "Developers were only allowed to deploy code to a certain environment and the rest of the environments were regulated with release-management procedures," Kisel explains. Established practices were creating bottlenecks in the product's path from development to testing – and impeding Leonteq's ability to deliver faster business value.

SOLUTION

Implement CI/CD and CloudBees CI

To accelerate product development and innovation without sacrificing quality, Leonteq sought to automate its build and release process and move to a continuous integration and continuous delivery (CI/CD) environment.

Leonteq began its journey to continuous delivery by embracing a DevOps approach to software development and adopting Jenkins. But the open source solution proved difficult to maintain and raised security concerns that made the company wary of scaling it further. That's when CloudBees emerged as the next logical step for Leonteq's maturing DevOps organization.

Today, Leonteq's DevOps group is running CloudBees CI to automate and streamline a vast majority of its nearly 200 development pipelines. "We are really quite advanced," says Kisel. "We automate nearly everything with CloudBees pipelines. It's like a Swiss Army knife. If I need to automate something, even if it's a temporary job, I can do it in CloudBees CI because I know that it works." Developers currently use CloudBees to orchestrate the release of software into acceptance testing and hope to expand the process soon to include deployment of applications directly to production.

CloudBees also helped Leonteq improve quality by involving business managers in the release management process. "We wanted to have our product experts from the business side take an active role in overseeing developers and being responsible for releasing software," says Kisel. "CloudBees helped us orchestrate this complex synchronization of everyone in the organization."

Automating pipelines

Automating tests with CloudBees has significantly increased the speed and efficiency of Leonteq's development cycles. Now whenever a team makes a change to an application, it automatically triggers a testing process. After passing the test, the build is reviewed for quality by a product specialist who provides immediate feedback to the team.

"Enabling rapid feedback was one of the biggest advantages we gained by integrating pipelines with CloudBees CI," says Kisel, noting that the team's average feedback cycle shrank from approximately two weeks to as little as two hours.

"CloudBees CI is like a Swiss Army knife. We use it to automate all kinds of jobs, including the execution of Docker containers."

– Sergey Kisel, Former Head of IWPS Development

Additional efficiencies were captured when the group started to automate its systems infrastructure. For example, in the past, if teams needed to provision a virtual machine (VM), they had to set it up manually using hypervisor management software – a procedure that could take half a day to complete, cutting into the team's productivity. Today VM provisioning takes just minutes.

According to Kisel, one of CloudBees' biggest advantages is that his engineers can simply write code to execute almost any job or test they need. "And all of this is tracked and audited just by looking into the code or into CloudBees," he says.

Avoiding bottlenecks with CloudBees checkpoints

CloudBees Checkpoints plugin has helped Leonteq address a common problem that arises when temporary failures force developers to restart the build process. Though the underlying issue may be easy to fix, the events can create serious setbacks to projects and waste valuable developer time.

"The problem with long pipelines is that sometimes they transiently fail," says Kisel. "So that's why the Checkpoints plugin is so important for us. If things fail in the middle somewhere – sometimes just five minutes before finishing – you have to go through all those steps again and can lose another hour or more."

Now, whenever one segment of the development process completes normally, teams can insert a checkpoint at that part of

the script. Later, if the build fails, developers can simply restart it from that point and run the remainder of the flow, skipping over the steps preceding the failure. "This checkpoint functionality was one of the main reasons we chose CloudBees," Kisel says.
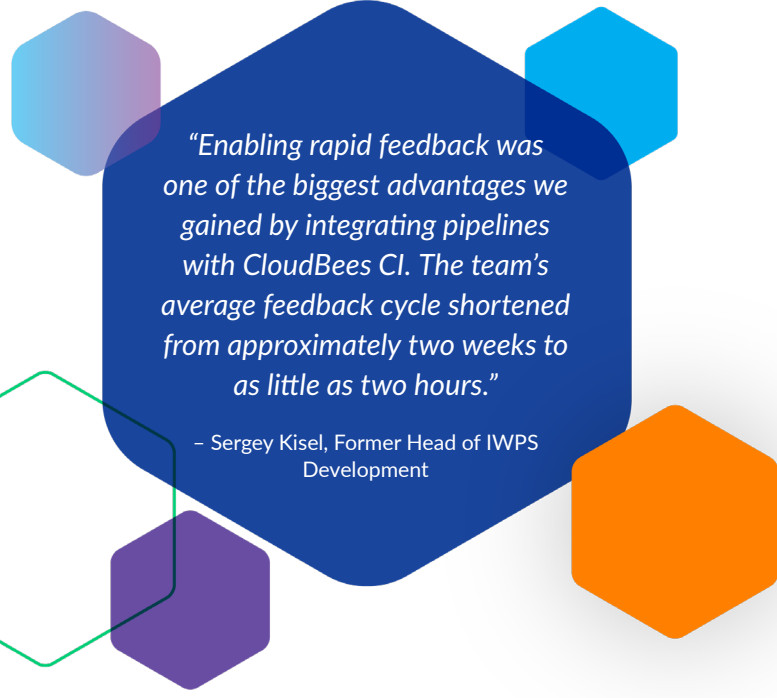
Fewer manual interventions

By automating its pipelines with CloudBees CI, development teams have dramatically reduced the number of manual interventions needed to keep development projects on track. Previously, when teams had to deliver new business features fast, they were prone to human errors due to manual interventions in the process, like configuration management. Today, the number of manual interventions in pipelines, as well as any deviations from standard procedures, have fallen to nearly zero.

Kisel says the group's adoption of well-orchestrated, automated pipelines has led to a marked improvement in the quality of applications being released to user testing. The group's adoption of more efficient and stable microservices architectures has also contributed to a boost in application quality.

FOCUSING ON WHAT MATTERS

Today, Leonteq continues to invest in automating and improving product development with CloudBees. Recently the group began evaluating the option of moving projects to the cloud and is looking at adopting CloudBees to automate workloads in that environment.

Because creating great software is what drives its competitive edge, Leonteq believes that any technology that helps it better focus on that core competency will almost certainly pay off. "In this industry, you really want to spend your efforts on something that is mission-critical for the company," he says. "You need to concentrate on providing the most value for your customers and not on things that you have to spend a lot of time and effort maintaining. That's why we chose CloudBees. We didn't want to manage Jenkins ourselves."

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RESULTS

Faster code development

"With CloudBees CI, we are delivering our software solutions faster because there are fewer delays and bottlenecks. We also are confident that every product is 100% quality tested before going into production," Kisel says.

Checkpoints save time

"Many of our pipelines are long living, taking up to an hour to run," Kisel says. "Sometimes the process fails transiently – often just a few minutes before finishing – preventing us from releasing functionality to the next level. With the CloudBees Checkpoints plugin, we don't have to go through all those steps again, saving us an hour or more of runtime."

Faster feedback

"Enabling rapid feedback was one of the biggest advantages we gained by integrating pipelines with CloudBees CI. The team's average feedback cycle shortened from approximately two weeks to as little as two hours," Kisel says.

Enhanced competitiveness

"Thanks in part to our CloudBees-driven software development program, we have become much faster and more agile," Kisel says.

Flexible use cases

"CloudBees CI is like a Swiss Army knife. We use it to automate all kinds of jobs, including the execution of Docker containers," Kisel says.

Timely support

"CloudBees provides us good support for whatever issues we have. Developers across our group and I personally engage support when there is an issue that we can't solve on our own," says Kisel.

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