Case Study

Why Bitso Returned to Docker Business: Security, Efficiency, and Developer Experience

Bitso®

Industry: Cryptocurrency exchange
Location: Latin America
Team: 250+ engineers, with 100+ onboarded in the past 8 months.
Transacts monthly with more than 1,700 companies.

Key highlights

Onboarding time reduced: Switching back to Docker reduced onboarding time from two weeks to a few hours per engineer, saving an estimated 7,700 hours in the 8 months while scaling the team.

Cost-effective: Returning to Docker after spending almost two years with the alternative open source solution proved more cost-effective, decreasing the time spent onboarding, troubleshooting, and debugging.

Zero new tickets: After transitioning back to Docker, Bitso has experienced zero new support tickets related to Docker, significantly reducing platform support burden.

"Docker just works. You don't have to explain to anyone how to use it. It just does what everyone expects it to do in the way that everyone expects it to do."

Sebastian Montini, Platform Engineering Director at Bitso

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Introduction

Bitso, the leading financial services company powered by cryptocurrency in Latin America, is known for making crypto accessible, secure, and easy to use. The company offers various services, from personal digital platforms for earning returns and making payments to sophisticated blockchain-based solutions for institutional clients. In 2023 alone, Bitso processed $4.3 billion in transactions between the US and Mexico, reflecting a 60% increase in annualized volume.

To maintain its rapid growth and leadership in the cryptocurrency sector, Bitso consistently evaluates and refines its operational tools. The company's engineering team, which has grown to more than 250 members — including 100 new hires in the past eight months — depends on the Platform Engineering team to provide the necessary tools and environments for seamless development. "For every aspect that has to do with the developer experience and the tooling needed to build software at Bitso, the engineering team relies on our organization to make that happen," Sebastian Montini, Platform Engineering Director at Bitso, explains.

As part of this ongoing improvement, Bitso revisited its tooling strategy, focusing on improving security, efficiency, and the overall developer experience. Initially, Bitso decided to explore an alternative solution to Docker, as the company values using the best tools available and frequently experiments with new technologies. However, this switch introduced complexities and massively slowed down daily work for developers, particularly during onboarding, which could leave developers waiting for weeks. Recognizing the need for a more efficient solution, Bitso revisited its tooling strategy.

> "Docker is one of those industry standards. It just works."
>
> **Sebastian Montini,** Platform Engineering Lead at Bitso

Problem

Bitso initially relied on Docker to streamline its development processes. However, in keeping with their culture of exploring innovative tools, the team decided to experiment with an alternative solution. This move to an alternative solution, while driven by the desire to stay ahead with cutting-edge tools, introduced unforeseen challenges, particularly with Apple silicon laptops.

Technical and operational challenges

The alternative solution introduced unexpected technical and operational hurdles for Bitso's specific environment:

- **Compatibility issues:** Engineers experienced frequent bugs and disruptions with Apple silicon laptops.
- **Complex setup process:** The detailed 16-step setup often took up to two weeks, causing delays.
- **Security concerns:** Non-centralized management raised security issues, particularly with single-sign-on (SSO) and SCIM integration with Okta.

"Part of the onboarding process was to go to a Confluence page with like 16 different steps to make [our previous solution] work on Apple silicon laptops," Montini explained. The process was time-consuming and prone to frequent issues, requiring extensive support interactions.

Impact on productivity

The operational challenges were broader than onboarding delays. Engineers would frequently encounter issues, leading to ongoing interruptions and a need for continuous troubleshooting. "It was sort of self-service, but issues were being found all the time," Montini said. Issues included:

- **Hardware compatibility:** The switch to the alternative solution caused issues when the team transitioned from Intel-based MacBooks to Apple silicon laptops. Some bugs were being addressed, but not at the pace needed, leading to complaints from engineers.
- **Workarounds and support delays:** Engineers had to rely on workarounds and frequently spent up to a week going back and forth with teams supporting the alternative solution to resolve issues, which added unnecessary complexity.
- **Troubleshooting overhead:** Engineers spent considerable time troubleshooting and maintaining the setup, diverting focus from strategic initiatives.
- **Onboarding delays:** Most of the issues surfaced during the intricate onboarding process for new engineers, which significantly slowed down the setup of their development environments and caused engineers to spend time waiting, not engineering.

"The cost of onboarding delays and slowed productivity is way more than the cost of the licensing," Montini said.

The ongoing interruptions and continuous troubleshooting underscored the urgent need for a more streamlined and reliable solution. As Bitso prepared to scale, the alternative solution created growing inefficiencies, particularly with onboarding. It took up to two weeks per engineer to set up development environments fully. With plans to onboard more than 100 engineers in the next eight months, Bitso anticipated significant lost productivity due to long onboarding times. Returning to Docker helped avoid these inefficiencies, allowing engineers to contribute faster.

To support their rapid growth and maintain leadership in cryptocurrency, Bitso needed a faster, more efficient solution to minimize troubleshooting and streamline onboarding.

Solution

After evaluating the challenges with the alternative solution deployed in 2021, and recognizing the need for a more efficient development environment, Bitso returned to Docker in 2023.

The decision to return to Docker aimed to streamline onboarding, improve efficiency, and enhance security. Bitso implemented 194 Docker Business licenses and integrated Docker with their existing SSO solution, Okta.

The Platform Engineering team carefully planned and rolled out the transition back to Docker over two weeks. Once the move back to Docker was decided, deploying the 194 Docker Business licenses was smooth, facilitated by Docker's user-friendly setup.

"It just works" onboarding

Docker Desktop's intuitive interface reduced onboarding time from weeks to just a few hours per engineer. Onboarding more than 100 new engineers to Docker Business over the last 8 months took just a few hours each, compared to the previous tool's two-week process.

Since switching back to Docker, Bitso has significantly reduced the time spent onboarding engineers, allowing them to start contributing to key projects within hours instead of weeks.

A crucial benefit of working with Docker is the reduction in maintenance overhead. Docker's simplicity and reliability mean that extensive internal documentation and continuous support interactions are no longer necessary. Engineers can now quickly download and install Docker Desktop and begin work almost immediately.

"We don't need the pages and pages of internal setup documentation anymore. We just let people know that licenses have already been purchased, and they can just go and download them," Montini said. After downloading Docker Desktop, Bitso employees log in using Okta, automatically gaining access to Docker Business features. This eliminates complex setup procedures, allowing developers to focus on strategic work and begin contributing faster, while maintaining robust security through integration with SSO.

Secure development tools

In addition to the streamlined onboarding, integrating Docker with Okta SSO significantly enhanced security and access management. This centralized approach to user management supports Bitso's security and access management, ensuring compliance with regulatory standards. The reduced maintenance overhead allowed Bitso's Platform Engineering team to focus on strategic initiatives.

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Key benefits

Onboarding time reduced

Switching back to Docker reduced onboarding time from two weeks to a few hours per new engineer, saving substantial time and enabling faster productivity for the 100+ engineers onboarded in the last 8 months.

Improved compliance and security

Integrating Docker with Okta SSO ensured secure and streamlined access management, strengthening compliance with regulatory standards.

Reduced maintenance overhead

Docker's simplicity and reliability eliminated the need for extensive internal documentation and continuous support interactions, allowing the Platform Engineering team to focus on strategic initiatives.

Zero new support tickets

The reduction in onboarding complexity and support requirements led to no new support tickets related to Docker Desktop, boosting productivity.

Significant cost savings

Streamlined processes and reduced maintenance needs resulted in notable cost savings, proving Docker more cost-effective than the alternative open source solution.

Improved collaboration

Docker's industry-standard tools ensured seamless operation, regardless of engineers' previous experience, improving collaboration and development speed.

Results and outcomes

The implementation of Docker at Bitso has yielded significant improvements, both quantitatively and qualitatively. These results underscore the effectiveness of Docker Business in enhancing Bitso's operational efficiency, security, and developer experience.

Onboarding efficiency

One of the most immediate and measurable impacts was the drastic reduction in onboarding time. Before Docker, the onboarding process could take up to two weeks. With Docker Desktop, this time was reduced to just a few hours, allowing new engineers to start contributing almost immediately. This streamlined process significantly boosted productivity and reduced the time new hires spent on setup.

No support tickets needed

Since transitioning to Docker, the Bitso Platform Engineering team has seen zero new support tickets related to Docker Desktop. This shift has allowed the team to focus on strategic projects rather than troubleshooting setup issues. Docker Desktop's intuitive interface and standardized setup have minimized the need for extensive documentation and support interactions, freeing up valuable engineering resources.

"We have no support tickets or people complaining about things not working, which is really our end goal. So we're happy," Montini said.

Cost savings and maintenance

Returning to Docker has also proved more cost-effective than maintaining their alternative open source solution. The streamlined processes and reduced maintenance needs have resulted in significant cost savings. Docker’s simplicity and reliability have eliminated the need for extensive internal documentation and continuous support interactions, allowing Bitso’s Platform Engineering team to focus on more strategic initiatives.

Enhanced security and compliance

Integrating Docker with Okta SSO has significantly enhanced security and access management. This centralized approach to user management ensures that only authorized personnel have access to critical systems, bolstering compliance with regulatory standards. The integration has made security management more straightforward and efficient, contributing to overall operational stability.

"Integrating with Okta, which is heavily audited and monitored by our teams, definitely makes everyone’s lives easier,” Montini noted.

Improved developer experience

The feedback from Bitso’s developers has been overwhelmingly positive. Docker Desktop's intuitive interface and industry-standard tools have significantly improved the developer experience. Engineers appreciate the reduced friction in their development processes, which has led to higher overall satisfaction and productivity.

Conclusion

Overall, the implementation of Docker at Bitso has been a resounding success. Developers at Bitso have reported higher satisfaction and fewer interruptions to their work processes thanks to Docker's intuitive tools, which have helped streamline their daily development tasks and foster collaboration across teams. The significant reduction in onboarding time, elimination of support tickets, cost savings, increased productivity, and improved developer experience have greatly enhanced Bitso's operational efficiency.

Looking ahead, Docker will continue to play a crucial role in supporting Bitso's rapid growth and innovation in the blockchain space. By providing a reliable and efficient development environment, Docker enables Bitso to maintain its leadership position and explore new expansion opportunities because Docker can help the company scale as it grows.

"Docker is one of those industry standards. It just works," Montini said.

Learn more

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