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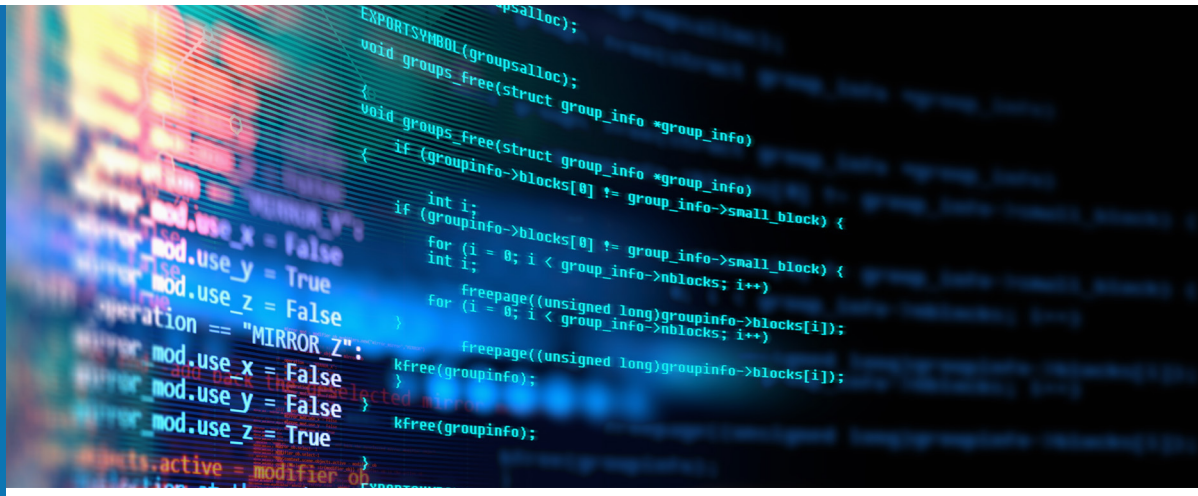
KODOU



Based in Greenwich, Connecticut, Kodou helps companies solve their problems with monolithic code and technical debt by enabling them to safely decouple code into API services. Instead of conducting long and expensive rewrites of application software, Kodou's solution automatically breaks up code into modular components that run as Microservices without disrupting operations.

Kodou Solves the Issue of Enterprise Technical Debt with an Innovative Solution Based on Akka

Executive Summary

Kodou allows enterprises to automatically transform software to remove technical debt, enhance security, and enable DevOps practices and cloud migration, all without any downtime. To deliver this solution, the development team turned to Akka to serve as its foundation. Akka gave them the scalability, resilience, and ease of development that gave Kodou the core elements they needed to build a truly ground-breaking solution.

The Challenge

Few problems present as great a challenge for enterprise software organizations as technical debt – a term used to describe a normal and unavoidable side effect of software engineering in which development teams "borrow" against quality by making sacrifices, taking shortcuts, or using workarounds to meet deadlines. These sacrifices eventually cause the software to deviate from its prescribed nonfunctional requirements and, in the long term, impact the performance, scalability, and resilience of the architecture.

Today, the problem of technical debt is more pronounced than ever, with companies actively seeking ways to mitigate its impact through better practices in software development, continuous integration and delivery (CI/CD), automated testing, and regular code reviews. There is also a big focus on transitioning existing monolithic software codebases to modern architectures like microservices to reduce future debt accumulation.

Kodou was one of the first firms to develop a means to help enterprises solve this critical problem. It has created a unique and innovative solution to tackle technical debt while also enabling the transition from older architectures to today's cloud-based microservices architectures. By doing so, their customers can modernize their software without disrupting their existing services. This is a powerful and unique differentiator. In addition, Kodou enables its customers to quickly reduce maintenance costs, speed time-to-market, and new feature development, increase performance, and improve their security while setting the stage for future development.

To build this innovative solution, Kodou turned to Akka and its distributed architecture to provide a stable, resilient foundation capable of scaling with its customer base.

"We wanted a real solution with real people behind it, and Akka delivered on that front. We found our move to Akka very natural. It has enabled us to focus on building our business logic rather than worrying about minutiae."

Yves Jean, Kodou Founder

The Solution

Kodou's goal was to enable companies to transform their code bases without resulting in downtime. This was a critical step since much of the software requiring modernization continues to generate significant revenue and cannot be offline without impacting the business.

Kodou's innovative approach is to observe the newer software build for the first time and understand the "recipe" of this architecture as it's designed. Kodou can then segment the older monolithic software and separate it via APIs. This enables new services to be built in less than a minute. If the monolith repository wasn't written as a microservice, it pulls the section so it can be replaced with a SaaS solution or rewritten as a microservice. It is an API-only service that integrates with an enterprise's IDE and software tools. This "low-code" platform is built on Akka, other open source software, GitHub, and the company's own corporate repositories.

The Results

By leveraging Akka, Kodou has been able to deliver incredible results to its enterprise customers. Its solution is less than 10% of the cost of using a consulting firm and delivers results a full order of magnitude (10x) faster. What's more, once the transition is complete, firms see a 4x increase in developer output, speeding innovation and time-to-market.

Kodou chose Akka due to its distributed architecture and many other beneficial attributes, including:

- **Scalability** – Akka can scale both vertically (on a single machine) and horizontally (across multiple machines), by adding more actors or nodes to the system.
- **Resilience and Fault Tolerance** – Akka provides supervision strategies to handle failures and restart actors in case of failure, ensuring that the system can recover, remain stable, and is always available.
- **Ease of Development** – Akka made it easy for Kodou's team to focus on building their business logic, while automatically handling functions like sharding, concurrency, load balancing, and universal naming.

The overall result is that Akka enabled a small team to build a world-class solution that tackles an incredibly complex development problem in record time.

Visit **Lightbend** to learn more about **Akka** and our other product and service offerings.