yields

Yields is an international technology company providing an award-winning SaaS platform for financial institutions to stay in control of their models. The modular and model-agnostic solution empowers firms to oversee, test, and document their models at scale while ensuring full reproducibility and auditability. Leading global and local firms have successfully deployed the Yields MRM platform to boost the effectiveness and efficiency of their model development and validation activities. Yields is backed by renowned investment firms, including investors Volta Ventures, Pamica NV, and G+D Ventures.

Yields Lowers the Cost of Financial Model Management up to 90% by Building on Akka

Executive Summary

Yields offers an award-winning SaaS platform for financial institutions. Customers use its Yields for Performance solution to determine the accuracy and efficacy of valuation models they use to make decisions about asset value, the appropriate interest rate for a loan, and other financial service decisions. Thanks to Akka, Yields for Performance enables model developers and validators to automate and standardize all model testing, reducing the overall cost for many users by 90%.

The Challenge

Model risk management (MRM) is the art of handling the inherent uncertainty related to mathematical modeling. Financial organizations, in particular, leverage algorithm models for everything from determining the fair value of an asset to different investment strategies. This is a crucial function as the models often underpin the core value these companies provide and can be a laborious and costly process.

Most models are built to study the evolution of dynamical systems (e.g., a credit risk model or a valuation model), but are often based on current market conditions, and their accuracy is dependent on a set lifecycle that naturally runs its course as market conditions evolve. As a result, financial institutions have a deep need for solutions that enable them to govern their unique models accurately, assess their risk, and determine their effectiveness. Yields looked to build a better solution that addresses customers' needs, particularly around:

- **Scale**
  Customers may have dozens of models for different functions, each one a complex system in and of itself. The ability to scale this complexity is critically important.

- **Security and Compliance**
  Easily incorporate frequently changing compliance requirements (e.g., GDPR in the EU and NIST in the United States) and maintain information security in the model.

- **Adaptability**
  An app flexible enough to adapt quickly and easily to different markets with different models, regulations, and variables with rock-solid reliability.

- **Auditability**
  Ability to carefully report, reproduce results, and self-audit to meet the strict requirements of the financial organizations it serves.

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"We wanted to represent everything on our platform as events, which Akka and its Actor Model enabled us to do. These events, in turn, could trigger other processes, which enabled us to build this system much more easily while also giving us auditability of the platform. That's very important to us, and Akka was able to deliver."

Sebastien Viguie, Co-founder and CISO, Yields

The Solution

Yields chose Akka to build Yields for Performance. Utilizing Akka, Yields for Performance can efficiently handle concurrency, manage state in a distributed environment, and recover from failures all while maintaining high performance and scalability.

Yields has been able to realize:

- **Simplified Concurrency:** processing of messages sequentially, avoiding the complexity of managing thread synchronization and locking mechanisms typically found in traditional concurrent programming.
- **Modularity and Loose Coupling:** Makes the system easier to understand, maintain, and modify.

The Results

Building an application in Akka was a first for the Yields development team and they found the learning curve to be negligible. In fact, they felt Akka and its Actor Model came easily to its developer team.

With Akka, the Yields for Performance has achieved significant success for Yields and its customers. The award-winning solution's monitoring capabilities enable early detection of model failures, resulting in improved models and reduced capital requirements. Yields is seeing many of their customers reduce the cost of their model validation by a factor of 10.

Akka delivers a stable foundation for Yields for Performance, ensuring its reliability and resilience. This is a critical element valued by financial institutions everywhere, particularly since Yields's solution is tied so closely to its customers' success.

Persistence is a critical attribute that Akka enables for the Yields for Performance financial application. In the world of finance, data integrity and reliability are paramount. Akka's persistence capabilities ensure that all data changes within the application are durably stored, providing a reliable system of record that can withstand failures and recover gracefully.

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

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