



AKAMAS

SUCCESS STORY

Faster apps, lower bills: optimizing travel search in the cloud

How AI-driven optimization cut cloud costs by 20%, while boosting performance of critical Java microservices on Kubernetes

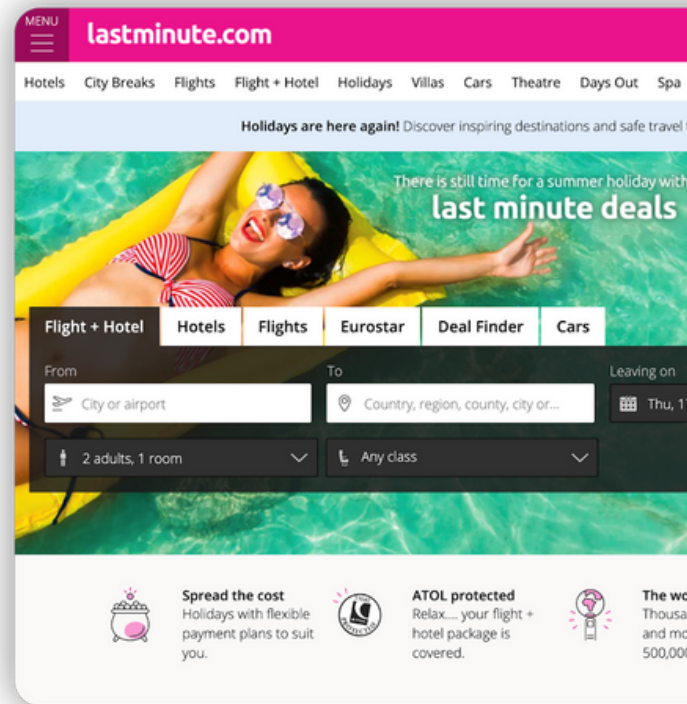
lastminute.com

lastminute.com

Worldwide leader in online travel booking services

Each month, lastminute.com reaches 60 million users globally across its apps portfolio and helps them search for and book travel and leisure services. **lastminute.com's information technology unit employs more than 150 people out of a total 1200 employees.**

To support its business operations and to enable rapid development and shipping of new features to its worldwide customer base, lastminute.com built a **modern software architecture based on Java microservices, running on Kubernetes in an on-premise environment.**



60M

monthly
users

5th

booking site
in the world

€2,35bn

gross
travel value

1200

employees
worldwide

The business challenge

How AI-driven optimization cut cloud costs by 20%, while boosting performance of critical Java microservices on Kubernetes

To ensure scalability and availability of its core business services during the peak-demand season, and to materialize the cost savings enabled by elasticity, the company was planning **to migrate** most of its core business applications and microservices **to the public cloud**.

Initial estimations **revealed that the move to the cloud would be way costlier than expected**, due to the number of resources required by core Java microservices. Before the migration, the team needed to identify opportunities to **reduce the cost** of running its applications in the cloud, while maintaining the same level of service, throughput, and user experience.

Cloud bills are proving higher than expected for many organizations, and moving applications to the cloud does not eliminate pre-existing performance problems.

The team was aware that application configurations played a critical role in ensuring cost-efficient operations. However, after developers spent two months optimizing JVM configurations for a single microservice, the team realized **the manual tuning process was not going to scale across the whole fleet of services**.

Pursuing both goals enables lastminute.com to better manage its Kubernetes total cost of ownership. Low search latency and high reliability afford it a competitive advantage among online booking services. Research has proven a **direct correlation between faster search response times and higher conversion rates**.

Challenge

Reconcile two competing goals in JVM and container resource configuration for each of its microservices: maximise service throughput, while minimizing resource allocation.



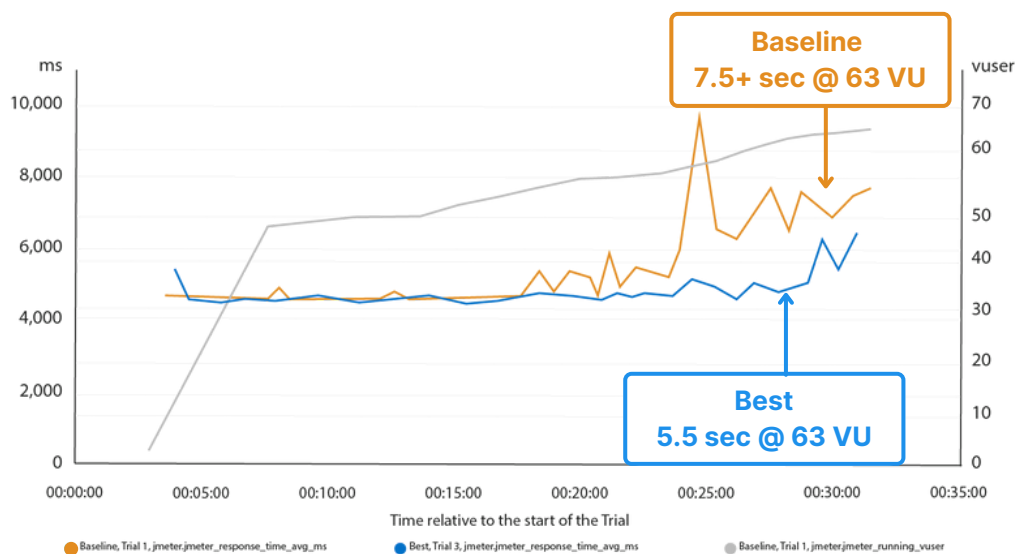
kubernetes

Benefits: cost reduction

Akamas AI-based optimization reduced cloud costs by 20%, while ensuring optimal throughput

The IT operations and development teams at lastminute.com quickly realized Akamas's potential and embraced its automation-oriented approach. Thanks to Akamas, lastminute.com was able to converge on and continuously tune the optimal configuration for its Java microservices, leading to:

- A **20% reduction** in operating costs due to rightsizing of cloud infrastructure;
- A **reduction in average response time of 2 seconds** under load;
- Peak transaction volume was **increased by 23%**;
- Operational efficiencies of developers, SREs and performance engineers increased.



lastminute.com

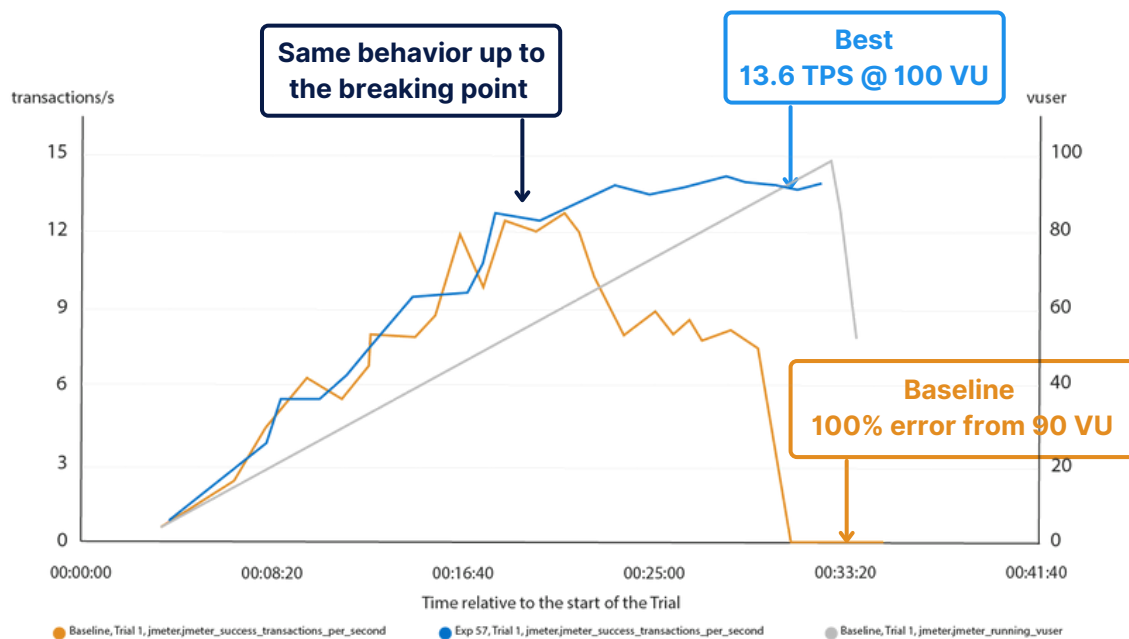
"What really impressed us was how quickly we were able to identify an optimal set of parameters in a Java environment, using AI and automation. Had we tried to do that manually, we wouldn't have had enough time, ever"

Stefano Leopizzi
Program Execution

Benefits: better resilience

Results exceeded **lastminute.com**'s expectations

In addition to the improvements in application performance, **Akamas also helped eliminate unplanned downtime**. Whereas, under load, the system with the baseline configuration stopped responding, after the optimization implemented by Akamas the service continued to operate normally at the maximum throughput the services could handle.



It is critical for lastminute.com to guarantee high reliability and high performance of their services and to be able to absorb spikes in traffic without suffering any service disruption. **These results exceeded the lastminute.com team's expectations.**

At a strategic level, **containing cost is of paramount importance**. The team has been tasked with the goal of migrating the entire system to the cloud and, in the process, achieve aggressive budget targets. That means reducing the cost of delivering key application microservices, while maintaining the same, or better, level of service performance. The business case that lastminute.com was able to build around its **adoption of Akamas predicted a ROI of 201%, with a 3-Year present value of €2,5 million.**

Autonomus Performance Optimization

Akamas is the AI-powered autonomous optimization solution that enables enterprises and online businesses to deliver unprecedented levels of service performance and resilience at minimum cost. Built by veterans in performance engineering and data science, Akamas exploits advanced machine learning techniques to optimize hundreds of interdependent service configuration parameters while matching both technical and business goals. Akamas customers include leading enterprise organizations in financial and online services.



Full-stack

Any technology, any parameter, any system



AI-driven

Let AI find the optimal configuration



Goal-oriented

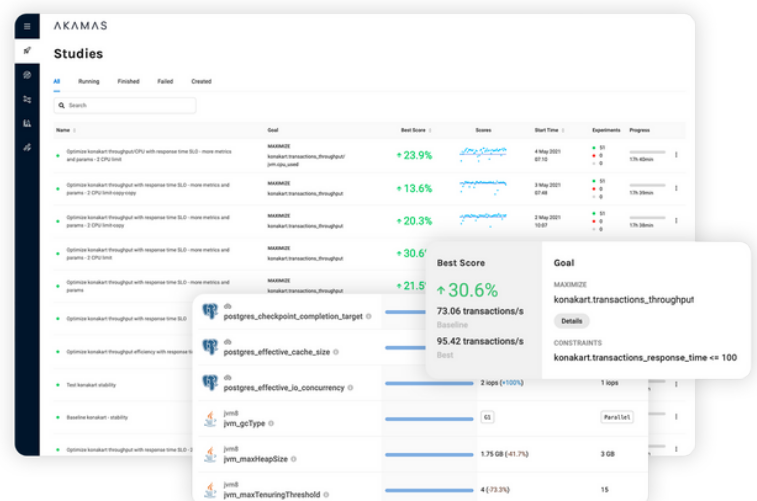
Set your goals & constraints for the right tradeoffs



Closed-loop

Automation that fits your delivery process

Test it out!
Contact us at
info@akamas.io



Milan HQ

Via Schiaffino, 11
20158 MILANO
T: +39 02 4951 7001

Boston

211 Congress Street
Boston, MA 02110
T: +1 617 936 0212

Los Angeles

12130 Millennium Drive
Los Angeles, CA 90094
T: +1 323 524 0524

Singapore

5 Temasek Blvd,
Singapore 03898