

Case Study

Intel® Xeon® Processors



Itaú Unibanco's Cloud Migration Reduces Cost, Improves Scale, and Enables App Updates in Days Rather than Months – Itaú Unibanco's Replatform Migration Journey

Moving legacy applications from an on-premise data center to Amazon EC2 Instances with Intel® Xeon® processors digitally transforms and enhances the customer banking experience.

Solution Ingredients

- Amazon EC2 instances
- Intel® Xeon® processors



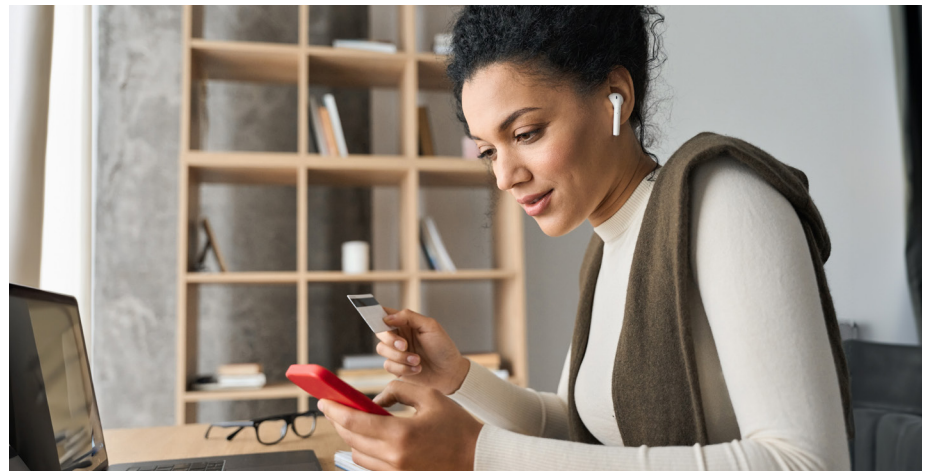
Executive Summary

After over 100 years in business, Itaú Unibanco is the largest bank in Brazil and Latin America, with operations worldwide serving about 55 million customers. Itaú Unibanco initially hosted all of its applications on its private cloud and distributed platform on-premise. However, the data center had limitations.

First, the legacy approach made updating Itaú Unibanco's mobile application difficult, and the process could take months. After migration to Amazon instances supported by Intel® Xeon® processors, Itaú Unibanco could update its mobile app in as little as a day. Secondly, the bank wanted to make its applications more valuable and responsive to users. The AWS solution currently supports more than 70 million customers through Itaú Unibanco's app, with the elasticity to grow with the company's customer base. The migration improved customer experiences and helped Itaú Unibanco to reduce costs and increase profitability.

Challenge

Today, 100 percent of Itaú Unibanco's customers can access all of the bank's products and services through the app. Given the evolution in customers' banking



Itaú Unibanco's platform modernization, using modern Intel processors available on AWS, allowed the bank to optimize instance allocation, operational efficiency, and customer experience.

behavior, Itaú Unibanco's team felt it was vital for the bank to digitally transform and modernize its applications to accommodate a growing customer base and differentiate itself in a competitive marketplace.

The bank initially hosted its applications on-premise, but the legacy environment deployment required a long time to install infrastructure and deploy new products and features. Itaú Unibanco needed to update applications rapidly to provide customers with the best experiences. The bank also hoped to reduce costs, increase profits, improve scalability, and gain operational efficiency by moving its distributed workloads to the cloud.

Solution

Working closely with Amazon, Intel, and other business stakeholders, Itaú Unibanco evaluated its applications and workloads to determine the optimal hosting environment. Proof-of-concept testing led to adopting Amazon EC2 Instances with underlying Intel® Xeon® processors. Itaú Unibanco migrated 99% of its private cloud and 20% of its distributed platform to AWS. Itaú Unibanco have moved the systems from 19,000 servers from their data center to AWS.

These changes helped Itaú Unibanco make application updates much faster and more efficiently. The Intel Xeon processors underlying the instances also accelerated workloads and cost-effectively improved end-user experiences. Plus, the deployment accommodated compliance with security rules outlined by NIST, ISO 27001, and CIS while providing Itaú Unibanco greater agility and scalability.

Within the Itaú Unibanco community of investment services, the bank interacts daily to evaluate opportunities to migrate on-premise platforms to the cloud, using the Replatform Journey.

Results

Itaú Unibanco has a platform called Tradops, defined in collaboration with the AWS Professional Services team. The bank has adopted an elastic platform with the capacity to grow and serve its customers. Currently, Itaú Unibanco can allow all customers to use its application. According to Itaú, preparing infrastructure for launching new products now takes up to one day for customers, compared to the previous 120 days. It means a 99% reduction in platform delivery lead time. Itaú Unibanco also migrated and deactivated 99% of the private cloud and 20% of the distributed platform to AWS. Besides that, the bank could see at least a 3.5 times better performance improvement, comparing legacy servers based on Intel Xeon E5 to new AWS instances based on 4th Gen Intel Xeon processors.¹

As an example, the investment services community using the Replatform Migration Journey for the "BNDES Payments" application—and considering the ability to drive innovation, the need to improve operational efficiency, and the desire to optimize customer experience—could save Itaú Unibanco up to 99% in annual cost when comparing the on-premise environment to the modernized workload running in the cloud.

Besides, Itaú Unibanco could capture additional benefits by modernizing the application in the cloud, such as improving scalability and elasticity, creating a FinOps culture, and improving high availability and reliability, among others.

"Digital processes were necessary in diverse areas in the company, to solve many of the problems, with the goal to decrease business incidents, decrease costs, increase profits and to increase customer experience."

This decision brought solutions to address many issues, including opportunities to increase security, backlevel applications, improve performance and scalability, and the agility to move to the cloud."

—Ellen Vasconcelos, Technology Manager, Itaú Unibanco

Key Takeaways

- Migrating legacy applications and workloads to the cloud can take significant time and planning, but the benefits of a digital transformation are enormous.
- By hosting applications in the cloud, Itaú Unibanco improved application performance and responsiveness for users. The move to Amazon EC2 instances with Intel Xeon processors also made updating applications much faster.
- Post-migration, Itaú Unibanco could update its mobile app in as little as a day.

"As a large financial institution, adding customer value is always a top goal. As one example, seventy-seven percent of our 15 million daily accesses depend on our mobile app. By moving to Amazon instances supported by Intel Xeon processors, we can update our app faster and enhance our customers' banking experiences while reducing costs."

—Marcelo Kendy, Technology Manager, Itaú Unibanco

For more information

- [Learn more about Itaú Unibanco.](#)
- [Explore Intel Xeon Processors.](#)
- [Check out Amazon EC2 instances.](#)



¹ Estimated results based on SPEC.org. (two socket server based – performance based on SPEC as a reference using similar CPUs as reference). On-prem blade server with E5-2600 v4 versus Intel Xeon Platinum 8000 3rd Gen on M6i based on SPEC and On-prem blade server with E5-2600 v4 versus Intel Xeon Platinum 8400 4th Gen on M7i based on SPEC. Due to bare metal testing, AWS performance may look different.
<https://www.spec.org/cpu2017/results/res2023q3/cpu2017-20230608-37128.html>, <https://spec.org/cpu2017/results/res2023q2/cpu2017-20230522-36684.html>, <https://spec.org/cpu2017/results/res2023q1/cpu2017-20230116-33500.html>

Performance claims provided by Itaú Unibanco; [All Published SPEC CPU2017 results](#).

Performance varies by use, configuration and other factors. Learn more at www.intel.com/PerformanceIndex.

Performance results are based on testing as of dates shown in configurations and may not reflect all publicly available updates. See backup for configuration details.
No product or component can be absolutely secure.

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