

# Hong Kong's WeLab Bank Launches First Homegrown Virtual Bank with Temenos Transact on AWS

## Case Study



## Executive Summary

WeLab Bank, a fully digital bank headquartered in Hong Kong, became the city's first homegrown virtual bank<sup>1</sup> in 2019, using Temenos Transact for core banking, along with Temenos Analytics and Temenos Financial Crime Mitigation (FCM), all powered by Amazon Web Services (AWS). The preconfigured nature of Temenos Transact enabled WeLab Bank to deploy a proof of concept on AWS in just six months to meet the licensing requirements of the Hong Kong Monetary Authority (HKMA). Now running in production, the solution leverages an active-active deployment across multiple AWS Availability Zones for zero data loss and enables on-demand scale with microservices and a containerized architecture.

## Challenge

WeLab was founded in 2013 and is known for revolutionizing financial services with technology, providing customers across Hong Kong, mainland China, and Indonesia a broad spectrum of financial products and services. In 2019, WeLab obtained a virtual banking license from the first batch issued by the HKMA. Equipped with this license, WeLab launched WeLab Bank—a mobile-only, virtual bank with a range of offerings and a vision to democratize banking. To meet the HKMA's licensing requirements, WeLab Bank had to develop a sandbox version of its virtual bank within six months. By comparison, it typically takes at least one year to design and develop a core banking system for a traditional bank.

## Solution

In just six months, WeLab Bank deployed a proof-of-concept solution that incorporates Temenos Transact, along with Temenos Analytics and Temenos FCM. Because the Temenos solution was preconfigured, it was deployed fast with little coding. AWS infrastructure enabled WeLab Bank to seamlessly deliver services across Hong Kong with no data loss. WeLab Bank was able to stick to the fast deployment timeline, in part, because of the company's cloud-forward approach—more than 95 percent of its workloads run on AWS. In addition, WeLab Bank worked closely with AWS to ensure it met regulatory requirements specific to virtual banking.



**WeLab Bank**

## WeLab Bank deployed core banking sandbox in 6 months

Temenos developed a virtual bank proof of concept for WeLab Bank by leveraging Amazon Elastic Kubernetes Service (Amazon EKS) and deploying across multiple Availability Zones to run Temenos Transact for core banking functionality.



## About Temenos

Temenos is an Amazon Partner Network Advanced Technology Partner. Over 3,000 firms across the globe, including 41 of the world's top 50 banks, rely on Temenos to process the client interactions and daily transactions of more than 500 million banking customers.

“Temenos Transact on AWS provides lower infrastructure and operating costs for WeLab Bank's core banking, while the AWS Cloud delivers auto-elastic capabilities, making it very easy for WeLab Bank to scale for future business growth.”

— Kenneth Chau, Chief Technology Officer, WeLab Bank

<sup>1</sup> NuoDB, November 2019 <http://nuodb.com/press-releases/nuodb-rancher-labs/>

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**"** We were able to deploy in 6 months because Temenos Transact is a preconfigured system running on AWS, where everything is configurable and doesn't need much coding, plus our analytics and financial crime mitigation solutions have out-of-the-box integration. **"**

— Yuchun Li, Solutions Architect, Temenos

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**"** Temenos and AWS are a fantastic combination. Compared to a traditional banking system that shuts down during mainframe computations, it just doesn't happen—we've tried all the failover scenarios and the Temenos Transact solution is seamless, with zero data loss. **"**

— Kenneth Chau, Chief Technology Officer, WeLab Bank

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## Results and benefits

WeLab Bank is now backed by a seamless, virtual core banking platform that makes transactions and processing possible. The solution enables WeLab Bank to bring its financial services to market faster with product-building tools from Temenos Arrangement Architecture, address local regulations with configurations specific to the Hong Kong Model Bank, and extend innovation with more than 400 out-of-the-box APIs.

The Temenos solution leverages NuoDB's distributed SQL database and a containerized architecture for scalable, fast performance. It runs on an Amazon Virtual Private Cloud, which is a logically isolated section of the AWS Cloud enabling advanced security features like security groups and network access control lists. Amazon Kinesis Data Streams enables real-time ingestion and processing for streaming data, while AWS Lambda allows for a microservices-based architecture where WeLab Bank can run code without provisioning or managing infrastructure.

## AWS Availability Zones ensure resiliency

Traditional core banking is often stretched thin with today's huge volumes of transactions, constant requests for information, and services delivered to all parts of the globe. Core banking on the cloud provided WeLab Bank with faster processing for handling real-time transactions. Ensuring resiliency and redundancy was key. Temenos leveraged an active-active deployment to run the solution across multiple AWS Availability Zones, ensuring zero data loss.

## Containers and microservices deliver scalability

Developing a scalable core banking solution was paramount for WeLab Bank to accommodate end-of-day processing and any spikes in customer demand. As part of the proof of concept, Temenos leveraged Amazon EKS along with a microservices architecture to equip WeLab Bank with elastic scaling capabilities and automatic provisioning.

## AWS collaboration enables cost optimization

Because WeLab Bank leveraged a cloud-based core banking solution, the company didn't incur the same technical debt associated with on-premises infrastructure, where cost is calculated at peak loads. AWS Auto Scaling in the development and test environments optimized performance and costs of the container-based architecture. In addition, WeLab Bank worked closely with AWS to assess its peak utilization periods and reduce computing expenses through a flexible pricing model via Savings Plans, as well as Amazon Elastic Cloud Compute (Amazon EC2) Reserved Instances, which cost up to 72 percent less than on-demand compute.

## Learn more

[Temenos](#) is the world's leader in banking software, enabling banks to deliver frictionless, omnichannel customer experiences and gain operational excellence.

[AWS Availability Zones](#) are discrete data centers with redundant power, networking, and connectivity in an AWS Region. [Amazon EKS](#) is a fully managed Kubernetes service. An [Amazon Virtual Private Cloud](#) is a logically isolated section of the AWS Cloud where customers can launch AWS resources in a virtual network.