



## First Commercial Bank Accelerates Private Cloud Innovation with VMware Cloud Foundation

Founded in 1899, [First Bank](#) is one of Taiwan's leading financial institutions, offering retail, corporate, and wealth management services.

### Industry

Financial Services

### VMware footprint

- VMware® Cloud Foundation®
- VMware vSphere® Kubernetes Service

With over a century of banking experience, First Commercial Bank (First Bank) is undergoing a bold transformation to redefine its role in the digital banking era. In a highly regulated financial environment, the bank adopted VMware Cloud Foundation (VCF) to build a cloud native platform that is resilient, secure and adaptable. This initiative enables First Bank to modernize its IT infrastructure, containerize its core applications, and build a scalable environment that supports digital agility and prepares the bank for GenAI adoption. With innovation at the heart of its IT strategy, First Bank is laying the groundwork for a future defined by software-driven services, intelligent automation and cloud flexibility.

### Revamping a legacy institution through digital reinvention

First Bank is ranked among the world's top 200 banks in terms of total assets and Tier 1 capital. As one of Taiwan's major financial institutions, First Bank has made it a strategic priority to shift its image from a traditional bank to a modern innovator. In recent years, the bank has pursued digital transformation as a means to improve operational agility, enhance service delivery and drive product innovation. Its iLEO digital banking platform has become a hallmark of this journey.

At the core of this transformation is a belief that the future of banking will be “software-defined, data-driven, and AI-enabled.” This vision, championed by Dr. Pei-Wen Liu, Executive Vice President and Chief Information Security Officer at First Bank, has driven a fundamental shift in the bank's mindset—one from “stability-first” to one that embraces “innovation within stability.” To bring this vision to life, the bank's IT and digital departments set out to modernize their infrastructure and reimagine their approach to software development and operational models.

Achieving this required embracing agile methodologies and adopting technologies such as software-defined networking, Zero Trust security, DevSecOps, and containerization—necessitating a platform capable of supporting hybrid cloud deployments.

### Navigating risks while advancing cloud readiness

Historically, many financial institutions in Taiwan, including First Bank, took a cautious approach toward cloud adoption. Regulatory ambiguity and concerns about cross-border data transfers of customer information led the bank to adopt a wait-and-see approach. However, the onset of the COVID-19 pandemic and growing geopolitical tensions in the region has altered First Bank's risk calculus. It became apparent that a continued delay in cloud transformation could jeopardize the bank's ability to maintain business continuity during disruptive events and threaten its long-term competitiveness.

First Bank recognized that its existing infrastructure could no longer support the scale and agility needed to meet its future ambitions. The bank urgently needed a foundational platform that could support cloud native technologies such as Kubernetes and enable both multi-cloud and hybrid cloud deployments. It also needed the flexibility to operate seamlessly across diverse environments—simplifying management and reducing operational complexity.

### Establishing a foundation for secure, cloud native modernization

Following a comprehensive evaluation, First Bank selected VCF as the cornerstone of its digital transformation. Security also played a central role in First Bank's selection process. VMware vDefend Distributed Firewall, a hypervisor-integrated, software-defined security solution for VCF, enables comprehensive micro-segmentation, which is crucial for financial institutions handling sensitive data and meeting regulatory requirements. First Bank will leverage vDefend to establish granular network boundaries, enforcing a Zero Trust lateral defense strategy that protects every workload. This significantly strengthens their security posture to meet regulatory requirements and reduces cyber breach risk.



---

**“At the core of this transformation is a belief that the future of banking will be “software-defined, data-driven, and AI-enabled.”**

Dr. Pei-Wen Liu, Executive Vice President and Chief Information Security Officer, First Bank

---

Together, VCF and vDefend offered the optimal combination of deployment flexibility and advanced security. VCF also emerged as the most pragmatic and scalable foundation for realizing the bank's long-term digital ambitions—what First Bank regards as the essential “common platform for sustainable cloud adoption.”

Following the adoption of VCF, First Bank developed a three-phase transformation roadmap. The first phase focused on the front-end, beginning with the next generation iLeo mobile banking application. The project embraced Design Thinking and Agile development principles to modernize the user experience and accelerate service innovation. The second phase introduced a shared business and technology middle platform to enable consistent access across all digital channels. The third phase, launched in 2022, involved reengineering the bank's core banking infrastructure. This established VCF as the core container platform and cemented it as the long-term backbone of the First Bank digital architecture.

As the teams became increasingly adept with its technical middle platform and container orchestration, First Bank began rethinking its architectural assumptions. While its middleware and core systems would still require logical segmentation, the bank realized that as long as regulatory and operational security requirements were met, there was no need to maintain physically separate environments. Consolidating these systems on a single cloud-native container platform would not only reduce infrastructure cost and complexity but also improve operational efficiency and establish consistency across environments.

### Validating cloud readiness through real-world deployment

Recognizing the importance of the right platform, First Bank launched a cloud readiness validation project in 2023 to test the feasibility of containerization and hybrid cloud deployment using VCF. The bank selected a set of applications—its employee digital learning portal, smart wealth planning platform (e-First), financing systems (e-FPG), and gift voucher services—as pilot workloads to be migrated and evaluated. In parallel, the bank conducted disaster recovery testing between on-premises and cloud environments.

The validation process confirmed the strength of the architecture and the operational viability of containerized workloads in a hybrid setting. This success laid the foundation for migrating more critical systems, such as First Bank's foreign exchange module, and marked a pivotal moment as the bank officially entered the execution phase of its cloud journey.

The process was not without challenges. According to Cui-Ping Li, Deputy Head of IT at First Bank, breaking down a century-old banking system into microservices and deploying them within containers required careful planning to ensure uninterrupted operations on both the technical and business fronts. Embedding container images across the VCF stack natively includes ESXi and Kubernetes, but must also include the application layer as a way to maintain manageability and observability. Before the platform was fully operational, the project team wrestled with how best to integrate infrastructure with the application layer, define optimal configuration parameters, and set thresholds to ensure compliance and performance.



With support from Broadcom's technical teams bringing in deep expertise in Kubernetes migration, platform architecture and implementation experience, First Bank was able to accelerate its deployment. The close collaboration enabled First Bank to rapidly gain hands-on experience, resolve implementation challenges, and complete the validation of its new container platform—laying a stable foundation for future application transformation.

### Delivering measurable operational and development gains

The adoption of VCF and a cloud-native application development framework has delivered a wide range of technical and operational benefits for First Bank. With VCF's support for Infrastructure as Code (IaC), the bank can now automate the provisioning of infrastructure resources and enforce consistent configurations across environments, reducing human error and accelerating deployment cycles. Centralized logging, monitoring, and metric analysis have enabled real-time system observability and enhanced proactive operations. VCF's self-healing capabilities allow the system to automatically detect issues, redeploy services, or reallocate resources to maintain uptime and service continuity.

When summarizing the value delivered by VCF, Dr. Liu emphasized that it enables dynamic and integrated resource allocation based on real-time workloads. VCF not only improves elasticity and scalability but also provides a clear path to cloud adoption that meets the demands of both market responsiveness and regulatory rigor. The platform has also shaped a new culture around microservices, supporting First Bank's shift toward DevOps and CI/CD development ecosystems. These changes have enhanced collaboration between IT and business units, accelerated time-to-market for new services, and improved user experience and operational effectiveness.

### Charting a secure path forward for GenAI innovation

With the right foundation in place, First Bank is now looking ahead to its next digital frontier: Generative AI. As the bank positions GenAI as a central engine of digital transformation, it must ensure that its AI models can operate in a secure, compliant, and highly controlled environment. VCF provides the ideal platform to support this strategy.

Through its integrated Kubernetes runtime—vSphere Kubernetes Service (VKS), and compatibility with microservices architectures, VCF enables First Bank to effortlessly deploy GenAI applications, inference APIs, and retrieval-augmented generation (RAG) architectures. Broadcom's partnership with NVIDIA allows for GPU virtualization, AI model training, and inference acceleration. In addition, NVIDIA's AI Enterprise suite can be incorporated to support large language model (LLM) development. With vDefend Distributed Firewall's micro-segmentation, and Intelligent Assist for VMware vDefend, the bank is looking toward establishing a secure, on-premises environment for LLM training and deployment—paving the way for a private GenAI assistant or Copilot tailored to financial services use cases on hybrid cloud.

---

“Through this containerization process, First Bank has successfully built a more agile and more resilient cloud native platform. It has enhanced the usability and flexibility of our applications and has laid a solid foundation for large-scale adoption in the future. This result is a critical step in our journey towards our core values as an enterprise—which is the vision to make our products and service processes software-defined, data driven, and AI enabled”

Dr. Pei-Wen Liu, Executive Vice President and Chief Information Security Officer, First Bank

---