

five°degrees



From legacy to legendary:

# The ultimate cloud-native core banking. guide.

Unlocking agility, innovation, and customer-centricity  
in the digital banking landscape.

Insight Paper

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## Introduction

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# Introduction.

Welcome to "**From Legacy to Legendary: The Ultimate Cloud-Native Core Banking Guide.**" In this comprehensive guide, we delve into the transformative world of cloud-native core banking and how it empowers financial institutions to unlock agility, innovation, and customer-centricity in the dynamic digital banking landscape.

The banking industry is at the cusp of a significant transformation, driven by rapid technological advancements and evolving customer expectations. Traditional core banking systems, built on legacy architectures, have served as the backbone of banking operations for decades. However, they are now facing critical limitations that hinder banks from embracing the speed, flexibility, and scalability needed to thrive in the digital age.

Our guide provides essential insights into the evolution of core banking, from early transaction-focused systems to the emergence of cloud-native architecture. We'll understand the challenges posed by legacy technologies and the transformative power of cloud computing, open APIs, and advanced analytics.

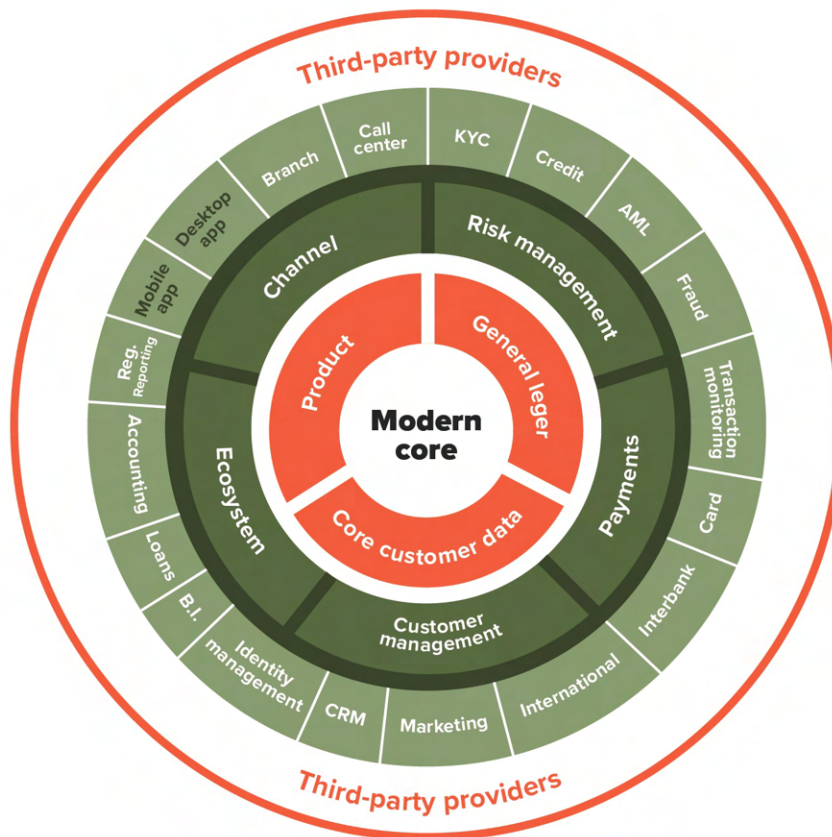
1.

# Cloud-native core banking.

Modernizing financial services



In the realm of banking, core banking refers to the fundamental systems responsible for managing basic banking operations. These systems typically entail a centralized database that stores customer information, account details, transactions, and other essential banking data. Over the years, traditional core banking systems have served as the backbone of financial institutions, supporting various banking processes. However, with the rapid evolution of technology and the increasing demands of customers, these legacy systems have faced significant challenges.



**Bank anatomy based on a next-gen core banking platform.**



One of the primary constraints of traditional core banking systems is their reliance on legacy technologies. These outdated technologies often result in inflexibility and scalability limitations, making it challenging for banks to adapt quickly to changing market dynamics and provide agile and customer-centric banking experiences. Moreover, the maintenance costs associated with these systems can be prohibitively high, diverting valuable resources away from innovation and customer-focused initiatives.

To address these limitations and remain competitive in the digital era, financial institutions are turning to modern core banking platforms. These dynamic solutions are designed to harness the power of cloud computing, open APIs, and advanced analytics. By adopting cloud-based infrastructure and leveraging software-as-a-service (SaaS) models, modern core banking platforms offer numerous advantages.

One such modern core banking use case is the implementation of a cloud-native core banking platform by a mid-sized bank. The bank was struggling to keep up with the demands of its tech-savvy customers who expected seamless digital experiences and personalized services. The bank's legacy core banking system was unable to handle the increasing volume of transactions and lacked the flexibility to introduce new products and services quickly.

By transitioning to a cloud-native core

banking platform, the bank experienced a transformation in its banking operations. The cloud-native architecture allowed the bank to scale its operations effortlessly, ensuring a smooth customer experience even during peak times. The platform's open APIs enabled the bank to integrate with various fintech partners, expanding its product offerings and providing customers with a more comprehensive range of financial services.

The modern core banking platform also leveraged advanced analytics to gain deeper insights into customer behaviors and preferences. With this data-driven approach, the bank could tailor its offerings to meet individual customer needs, thereby enhancing customer satisfaction and loyalty.

Furthermore, the bank benefited from cost savings as the cloud-native platform eliminated the need for costly hardware upgrades and reduced maintenance expenses. Instead, the bank could focus its resources on driving innovation and improving its digital offerings.

As financial institutions continue to adapt to the digital age, embracing modern core banking approaches becomes a strategic imperative. By harnessing the power of cloud computing and embracing a customer-centric approach, banks can unlock the true potential of core banking in the digital era, as demonstrated by the use case of the mid-sized bank's successful adoption of a cloud-native core banking platform.

**Let's embark on this transformative journey to unlock the true potential of core banking in the digital era.**



2.

# The evolution of core banking.



## Embracing Cloud & SaaS Solutions

The banking industry has witnessed a significant evolution in core banking over the years. Let's explore this journey from its early years to the present and beyond, understanding the limitations of traditional systems and discovering the transformative power of modern core banking platforms.



1960 - 1970

### Early years

During the 1960s and 1970s, core banking systems were rudimentary, mainly focused on executing monetary transactions. These in-house systems ran on mainframes with minimal security measures. As time passed, they became more complex, but their rigidity and product-centric nature hindered adaptability.

1990

### Customer/Server Architecture

The introduction of client/server architecture and personal computers in the 1990s brought more flexibility and interactivity to core banking systems, allowing for distributed computing models.

1990 - 2000

### Internet Banking

The rise of the internet revolutionized core banking, enabling online banking services that provided customers with convenient access to their accounts and transactions through web-based interfaces. This shift marked a significant move from branch-centric to accessible, anytime, and anywhere banking.



The evolution of core banking systems over the last 50 years has been remarkable, witnessing improvements in functionality. However, the challenge of dealing with inflexible, monolithic infrastructures still persists, hindering banks from cutting costs and improving time to market.

As the banking industry's needs continue to evolve, one significant development has been the shift towards a software-as-a-service (SaaS) approach. This transformation enables financial providers to rapidly create innovative and cost-effective new products, driving

progress in the digital landscape.

The latest trend in modern core technology is the emergence of cloud-native core banking, also known as next-gen solutions. By leveraging cloud technology, banks can effortlessly incorporate new features and services through APIs without requiring a complete system overhaul.

Today, APIs have become integral to core banking operations, offering boundless possibilities for seamless integration of new components into the core architecture.



### 2000 - 2010

#### Integration and Channel Expansion

Core banking systems evolved to integrate multiple channels, such as online banking, mobile banking, and ATMs. This seamless integration empowered customers to access banking services through various touchpoints while incorporating functionalities like customer relationship management, risk management, and compliance capabilities.

### 2010 +

#### Customer/Server Architecture

Recent years witnessed a shift towards modular core banking systems and API integrations. This approach allows banks to replace specific components without rebuilding the entire system, providing more flexibility, scalability, and agility.

### Present & Future

#### Next-Gen Core Banking

In the present and future, core banking systems are embracing cloud technology. Cloud-native core banking solutions leverage cloud infrastructure, offering scalability, cost-efficiency, and enhanced security.

3.

# Innovations shaping the financial landscape.

## Cloud-based core banking



In the realm of **banking technology**, cloud banking cores are integral to the back-end systems responsible for processing daily banking operations and updating financial records. These systems stand out due to their utilization of cloud architecture, enabling installation on private or public clouds, and even being rented through the System as a Service model.

One prominent example of cloud-based solutions is **SaaS Core Banking**. This cloud-based software delivers banking services with ease of access through web browsers or mobile apps. Unlike traditional software that requires installation, upkeep, or maintenance, the program is hosted and maintained by the software providers. Financial institutions, including FinTechs and traditional banks, are embracing this technology for its benefits in faster innovation, efficient operations, and cost savings.

Another significant distinction in core banking systems is between **Cloud-Agnostic and Cloud-Native** approaches. Cloud-Agnostic refers to systems built on a technology infrastructure independent of any cloud platform or vendor, providing portability and flexibility across different

cloud providers. This approach allows banks to switch cloud providers or move applications to an on-premises environment if needed.

On the other hand, Cloud-Native core banking represents the **new generation of software design**, maximizing the capabilities of contemporary cloud technologies. These applications leverage containers, microservices, serverless computing, and other tools to optimize performance, security, reliability, and efficiency.

Choosing between these approaches entails considering an organization's specific requirements, goals, constraints, and cloud strategy. Cloud-Agnostic offers flexibility and avoids vendor lock-in, which suits organizations seeking to shift or prevent dependency on a single cloud provider. In contrast, Cloud-Native provides superior performance, scalability, and access to advanced services, but it may limit application portability.

Understanding the nuances of modern cloud-based core banking is crucial for financial institutions as they navigate the digital landscape and make informed decisions to drive growth and success in today's dynamic financial industry.



4.

# Modular architecture.

Empowering agile banking



Cloud adoption has become a game-changer for financial institutions in today's rapidly evolving landscape. It empowers banks to achieve goals faster and with reduced risk, with 73% of bank executives expecting returns ranging from 15% to 76% within the first 18 months of cloud implementation, according to a report by Accenture.

At the heart of modern core banking lies a sophisticated architecture composed of interconnected layers working harmoniously to deliver a seamless banking experience. Let's explore the power of modular architecture in core banking and how it empowers banks to deliver exceptional services while staying agile in an ever-changing digital landscape.

## Engagement Layer

Focuses on customer interaction and encompasses the employee portal, client portal, and other user-facing interactions accessible through web or mobile applications. By providing seamless and personalized user experiences, banks can strengthen customer engagement and loyalty.

## Core Layer

Utilizes cloud-native architecture for orchestration, omnichannel management, and client data management. It acts as the foundation of the core banking system, ensuring a unified and agile banking ecosystem that effectively caters to customer demands.

## Modular Services

Empowers banks to perform routine checks and offer comprehensive services to clients and internal operations. Leveraging superior cloud-native third-party technologies, this layer drives innovation and efficiency without compromising on performance.

## Client Data Management Layer

Mandated to manage and control data for compliance and risk management purposes. Administrating sensitive data in CRM, with clear visibility on historic mutations, product, client structures, and relations, allows banks to maintain a comprehensive understanding of their operations.

## Dedicated Product Layer

Focused on handling products, this layer hosts modular product engines equipped with configurable capabilities. Importantly, it ensures the separation of client information, preserving data security and privacy while efficiently managing products.

In conclusion, the adoption of a modular architecture in modern core banking systems stands as a crucial step towards empowering financial institutions in the digital age. The interconnected layers of engagement, core, modular services, client data management, and dedicated product layers work harmoniously to deliver a seamless and agile banking experience. By implementing a modular approach, banks can strengthen customer engagement through personalized interactions at the engagement layer while efficiently managing core banking operations at the core layer.

The modular services layer allows financial institutions to perform routine checks and provide comprehensive services using superior cloud-native technologies, driving innovation and efficiency. Meanwhile, the client data management layer ensures comprehensive control and compliance over sensitive data, fostering trust and security in banking operations.

Perhaps most importantly, the dedicated product layer not only handles products but also ensures the separation of client information, safeguarding data security and privacy. Through this well-structured and interconnected architecture, banks can efficiently respond to market demands, stay adaptive to changing customer needs, and optimize their services while preserving a scalable and flexible banking ecosystem.

As financial institutions seek to navigate the complex landscape of modern core banking, embracing a modular architecture becomes a strategic imperative. By carefully crafting and integrating each layer, banks can future-proof their operations, enhance customer experiences, and gain a competitive edge in the dynamic world of finance.

## Key benefits of modular core banking architecture:

 **Enhanced innovation**

 **Scalability**

 **Cost efficiency**

 **Improved flexibility & customization**



**Speed time-to-market** 

**Seamless integration** 

**Increased compliance** 

**Diminished Maintenance** 





## The different layers of the technology landscape:



# Cloud-native solutions in core banking.

Expert Interview with Fridrik Reynisson

## Why is the adoption of cloud technology significant to financial services?

“Undoubtedly, adopting cloud solutions offers numerous advantages compared to on-premise or cloud-adjusted technology. Cloud solutions provide benefits such as continuous deployment, high availability, and three crucial factors: microservices, scalability, and security. Microsoft Azure Cloud presents an extensive selection of managed services, simplifying the process for developers to explore new application designs. Leveraging cloud technology enables rapid scalability, which proves advantageous for banks and financial institutions.”

## What makes cloud-native technology ‘future-proof’?

“Predicting future technology trends is challenging, but cloud technology has critical features that make it future-proof. A shorter time-to-market is crucial to stay ahead when meeting forthcoming customer demands. Cloud-native solutions offer excellent connectivity, making integrating services inside and outside the bank easier and embracing new market opportunities through APIs. This is particu-

larly vital when the core lacks functionalities to meet customer needs.”

## What is the most challenging decision when making a core system from scratch?

“Our most significant decision was regarding orchestration, recognizing its importance for digitizing and automating bank processes.

Instead of building this functionality from scratch, we found that Microsoft Azure's Logic Apps was a suitable choice to use. Although the BPM functionality of Logic Apps required some adjustments for banking purposes, it provided a strong foundation that is integrated well with our architecture.”

## Why is cloud native the next-gen solution in core banking?

“The advantages of modern core banking technology are evident. In addition to the previously mentioned benefits, it provides increased efficiency, cost savings in IT, enhanced customer experience, and improved risk management to its adopters.





“We believe building a modern bank is most effective when you focus on the different layers of the technology landscape and apply a modular approach to utilize leading cloud infrastructure.”

**Fridrik Reynisson**

By adopting cloud-native core banking platforms, financial institutions can access robust capabilities that facilitate compliance monitoring and reporting.

Certain cloud-native cores offer reporting capabilities that gather information through connected APIs, pulling data from various sources and applying predefined report templates.

Financial institutions that invest in next-generation core banking systems will be well-equipped to thrive in an increasingly competitive and dynamic marketplace.”

## What notable characteristics set next-gen cores apart?

“I believe modern core banking systems should prioritize surpassing user expectations by focusing on enhanced user experience (UX) and customization. A well-designed platform that prioritizes UX can have a substantial impact. Customization plays a vital role in addressing unique business requirements and ensuring a secure user journey. Customizing rules is also crucial, allowing lenders to adapt to evolving customer demands and quickly explore new markets.”

## Fridrik Reynisson

Chief Architect at Five Degrees

Fridrik Reynisson has worked at five°degrees since the very start in 2009 as one of the key persons to create modern product architectures. As Chief Architect, today Fridrik is responsible for the cloud native architecture of the five°degrees Core banking platform.



6.

# Embracing cloud-native core banking for success.

## Conclusion

In this comprehensive guide on cloud-native core banking, we have explored the transformative power of modernizing and optimizing banking systems in the digital age. The rapid technological advancements in the banking industry demand agility, innovation, and customer-centricity to deliver faster, more efficient, and personalized financial services. Throughout the guide, we have explored the evolution of core banking, the rise of cloud-native solutions, and the significance of adopting a modular architecture.



## Key Takeaways:

### 1 - Traditional Core Banking Limitations

Legacy core banking systems built on outdated architectures can hinder banks' adaptability to changing market dynamics and customer expectations.

### 2 - Embracing Modern Core Banking:

Modern core banking platforms leverage cloud computing, open APIs, and advanced analytics to deliver agility, scalability, and a customer-centric banking experience.

### 3 - The Power of Innovation

Cloud-based infrastructure and SaaS models offer cost-effective scalability, enhanced security, and seamless system updates, optimizing operational efficiency and personalizing banking experiences.

### 4 - Breaking Free from Constraints

Cloud-native core banking frees institutions from costly maintenance burdens, enabling agility to focus on meeting evolving customer needs.

### 5 - The Evolution of Core Banking

From early transaction-focused systems to the current cloud-native architecture, banking technology has evolved, embracing internet banking, integration, and modularization.



## 6 - Cloud-Native Core Banking

Cloud-agnostic and cloud-native approaches provide distinct benefits, offering flexibility and scalability or maximizing the capabilities of contemporary cloud technologies.

## 7 - The Power of Modular Architecture

A sophisticated interconnected architecture empowers banks to deliver exceptional services and efficiently respond to market demands while preserving adaptability.

## 8 - Streamlining Core Banking Layers

The engagement, core, modular services, client data management, and dedicated product layers play unique roles in delivering a seamless and agile banking experience.

## 9 - Future-Proofing Operations

Adopting a modular approach and cloud-native solutions future-proofs banking operations, fostering innovation, and enhancing customer experiences.

## 10 - Customer-Centric Banking

Embracing cloud-native core banking enables banks to put customers at the center of their operations, delivering personalized services and driving customer loyalty.



In conclusion, cloud-native core banking marks a pivotal shift in the banking industry, embracing cutting-edge technologies for the digital era. By embracing modern core banking platforms and a modular architecture, financial institutions can optimize operations, enhance customer experiences, and gain a competitive edge. Successfully navigating this transformative journey requires strategic planning, innovation, and collaboration.

Remember, customer-centricity is paramount, leveraging cloud-based solutions to deliver tailored, secure, and seamless banking experiences. Embracing

cloud-native technologies empowers banks to thrive in an increasingly dynamic and competitive market, redefining the banking landscape for growth and success.

We hope this guide has equipped you with valuable insights into cloud-native core banking's potential to revolutionize the financial industry. Embrace innovation, leverage cloud-native architecture, and prioritize customer needs to embark on a successful journey towards a customer-centric and digitally-driven future in finance.

7.

# Empowering cloud-native core banking with °neo.

°neo by Five Degrees



## About five°degrees

Five Degrees is a leading fintech company that empowers financial institutions with innovative solutions to embrace cloud-native core banking. Since 2009, we have been at the forefront of digital transformation in the banking industry, delivering cutting-edge products and services to help banks stay ahead in the ever-evolving digital landscape. °neo, our flagship product, represents the next generation of cloud-native core banking. This innovative platform offers financial institutions the power to transform their core systems into modern, customer-centric, and cloud-based solutions, unlocking agility, innovation, and efficiency.

## Key features & benefits of °neo

### Cloud-native architecture

°neo is built with cloud-native architecture at its core, harnessing the full potential of cloud computing. This ensures seamless scalability, high availability, and cost-efficient operations.

### Customization and flexibility

°neo's flexibility allows banks to adapt quickly to changing market demands and offer personalized banking experiences to their customers. The platform supports customizations and rule

### Modular design

°neo follows a modular approach, enabling financial institutions to tailor the platform to their specific needs. The interconnected layers of °neo empower banks to deliver exceptional user experiences while efficiently managing core banking operations.

### Simplified integration

°neo is designed to facilitate seamless integration with third-party services, enabling banks to leverage innovative fintech solutions and expand their product offerings effortlessly.

### Enhanced security

Security is a top priority in the banking industry, and °neo incorporates robust security measures to protect sensitive data and transactions, providing customers with peace of mind.

### Future-proof technology

By adopting °neo, financial institutions future-proof their core banking operations. The platform's cloud-native nature ensures that banks can keep pace with technological advancements and customer expectations in the dynamic financial landscape.



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## Why choose °neo for cloud-native core banking?

°neo provides transformative capabilities and a focus on customer-centricity. Break free from legacy constraints, optimize efficiency, and deliver personalized banking experiences that drive customer loyalty.

## Embrace the future of core banking with °neo.

Contact Five Degrees to embark on your journey towards cloud-native core banking. Experience the power of cloud-native architecture, scalability, and customer-centric banking with °neo, and lead the way in digital transformation.

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