



# Advantages of a cloud-native strategy in financial services

Enabling agility, fast rollouts of new features,  
and easy connections to new partners





Banks can form an ecosystem of financial and banking partners.

## Overview

The traditional information technologies used in financial services are no longer adequate to deal with relentless industry change and new competitive dynamics. Banks need to become more agile and adaptable in order to meet changing customer expectations. To address this problem, financial firms are starting to embrace cloud-native applications. They enable greater responsiveness to shifts in market conditions. Making cloud-native apps work, however, requires a mix of technological and management disciplines. Capgemini and Amazon Web Services (AWS) are working together to help you address these kinds of challenges. We have proven experience in taking banks from conventional IT architecture to new, flexible, and competitively strong cloud-native models.

## Thrive in a rapidly evolving industry

Competition in financial services, while always healthy, has grown even more intense as FinTech companies encroach on traditional banking business. We see this with payment card services as well as lending and investing solutions that are free-standing and not associated with any bank. They're winning over your customers, but this doesn't have to happen.

Responding to competitive pressure from FinTech firms, banks can form an ecosystem of financial and banking partners. There are many facets of this approach, including moving applications, application programming interfaces (APIs), and data to the cloud. Cloud-native applications are what make the whole structure work effectively in the cloud. The results are data-driven insights and the integration of core systems with partners, as well as secure, agile, and compliant connections for data and procedure calls.

Cloud-native applications rely on APIs, which connect systems using standards-based (i.e., non-proprietary) protocols. You can also use microservices to build cloud-native apps. These are small pieces of computer programming that come together flexibly to do different tasks. Overall, the ecosystem approach, built using cloud-native apps and APIs, creates what we call a "decoupled mesh of services" in the cloud. With this mesh, you can be agile. You can connect different parts of your IT to partners inside and outside of your entity, becoming a bank as platform in the process.

## Into action with cloud-native applications

Cloud-native apps of course run on the cloud. What's special about them, for our purposes, is how they connect to everything else in your world. We build your cloud-native apps and deploy them into what we call a service layer. This is where we run your apps, microservices, and containers like Docker—whatever you need to make your cloud strategy come to life. The service layer connects with your existing on-premises systems—your core banking systems like checking account management and so forth.

For example, we engaged with a major bank for a cloud-native project that was intended to speed up banking operations by removing roadblocks. The bank wanted to be able to deploy customer-facing capabilities in more than 50 countries. They had a vision of enabling a faster, more adaptable software releasing process while retaining legacy functionality and staying on their existing platform.

To help the bank realize this vision, we worked with them to adopt DevOps practices for speed and ease of multi-country deployments. We combined on-premises deployment with a hybrid cloud. The process involved utilizing a microservices architecture to expose core banking apps such as checking and savings, to cloud-native counterparts like retirement planning, trading desk, and so forth.

The project blended existing on-premises applications and a hybrid cloud. There are client-specific user interfaces (UIs) for different groups of users. Cloud-native apps take care of new services. In the middle of it all is a fairly complex set of API connectors. These link these new cloud-native apps to data sources in the cloud as well as on-premises.



## Elements of cloud-native applications

Cloud-native applications arise out of a combination of technologies and methodologies. Methodologies include agile development, which focuses on delivering business value as well as traceability from idea to use. Behavior-driven development (BDD) brings business and technical stakeholders together through use of simple, domain-specific language (DSL) and natural language constructs (e.g., English-like sentences) that can express a behavior and the expected outcomes. Test-driven development (TDD), another methodology used in creating cloud-native applications, involves repeating a short development cycle where requirements are turned into narrow, specific test cases.

DevOps figures prominently into the creation of cloud-native application. DevOps combines the previously separate workflows and teams of software development (Dev) and IT operations (Ops), which releases software into production. It's all about removing barriers for speed and efficiency in software development and delivery.

DevOps is now accompanied by "continuous everything," or continuous integration (CI) of software code into production application and continuous delivery (CD) of code. This is, in turn, further bolstered by broad automation of every possible process, from provisioning to deployment. Together, these methodologies enable you to create and deploy new applications more quickly than is possible with conventional software development and releasing processes.

The technologies that comprise cloud-native applications start, naturally, with the cloud. However, it's not just any cloud that will make cloud-native apps work well in the financial field. The cloud has to be highly dynamic and elastic, an "always up," self-healing and resilient, consistent environment. On that cloud, you need Platform-as-a-Service (PaaS) with developer self-service. This means having almost NoOps. Users should be able to do their own rapid rollbacks and conduct A/B and canary deployments to small groups of users.

Containers make a difference in the speed of development for cloud-native apps, as well as for their degree of portability and reuse. Being able to move an app from one environment to another contributes to business agility by cutting out the time required to develop a wholly new app for a new use case. Microservices have a similar impact. The net outcome of using these technologies includes less downtime, higher availability, greater flexibility in IT operations, and faster change cycles. This all enables IT to satisfy the business customer's engagement goals



### Cloud-native applications



We develop core assets and integrate them with your existing infrastructure.

## Challenges to cloud-native application development

We work with many financial services firms on cloud-native application development. In the process, we take multiple factors into consideration. It's about far more than just technology. Success with cloud-native application development requires the balancing of multiple organizational and technology factors.

Getting cloud-native apps right means considering your organizational culture, corporate strategy, and a change in management processes. We take deep dives into your security and compliance needs. We also familiarize ourselves with your methodologies for introducing new technologies and managing projects. All of these elements must be aligned in order for cloud-native apps to come to life in your organization.

From there, our proven processes for cloud-native success comprises an end-to-end approach to client support that ensures actionable strategy, reliable innovation, and flawless delivery. We collaborate with your business and IT groups to finalize designs, shape processes, and form go-to-market plans. We develop core assets and integrate them with your existing infrastructure. This involves the testing, launching, and measuring of results. The process continues through management and maintenance of cloud-based assets, targeting maximum quality and minimum total cost of ownership (TCO).

## Capgemini and AWS enable your cloud-native transition

We have the experience and relationships to cover the full spectrum of your cloud journey. We have a robust, secure, open-source-based platform that integrates digital services quickly, consistently, and cost-effectively. This is matched by proven cloud frameworks which leverage tools with predefined templates, accelerators, lessons learned, and intellectual property.

From these capabilities, we help you achieve accelerated time to market and get you on track to compete with FinTech. You get increased efficiencies from a proven architecture that optimizes consumption models, run times, capacity, and deployment. It's based on an all-inclusive package that includes specialized IP and industry-specific applications, along with cloud hosting and ongoing management.

Why should you work with Capgemini and AWS? AWS is the world's largest cloud provider, with a rich array of Infrastructure-as-a-Service (IaaS) features and PaaS-like capabilities. You get a choice of data locations as well as advanced access, encryption and logging features that allow you to manage access. An advantage of the AWS Cloud is that it allows customers to scale and innovate, while maintaining a secure environment.

Capgemini and AWS have been working together to deliver market-leading cloud solutions that transform our clients' business since 2008. A global relationship was formally established in 2011. Since then, Capgemini has become an AWS Premier Consulting Partner and a Certified AWS Managed Services Provider. Capgemini's capabilities for AWS in Financial Services complement its core competencies with SAP and cloud migration.

Capgemini has more than 10 years of experience in working with cloud technologies. We have delivered over 5000 cloud projects across all sectors of the economy. We have 7500 professionals with expertise in cloud technologies globally, with over 1500 resources focused in Financial Services, all trained at our AWS Migration Center of Excellence in India.



10 years of  
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## Conclusion

The financial services industry is undergoing a competitive transformation. Traditional IT solutions will not provide adequate flexibility and connectivity to support the kind of broad, partner-based strategies now required to win. Cloud-native applications enable the responsiveness and agility to deliver a competitive customer experience. It takes a mix of technological and management disciplines to make cloud-native apps work, however. This is one of our specialties. We have proven experience working with financial institutions in the development, implementation, and management of cloud-native apps and new, cloud-centric architectures.

For more information on our services, please contact us at ***financialservices@capgemini.com***.

Visit us at ***www.capgemini.com/bcm*** or ***www.capgemini.com/insurance***



## About Capgemini

A global leader in consulting, technology services, and digital transformation, Capgemini is at the forefront of innovation to address the entire breadth of clients' opportunities in the evolving world of cloud, digital, and platforms. Building on its strong 50-year heritage and deep industry-specific expertise, Capgemini enables organizations to realize their business ambitions through an array of services from strategy to operations. Capgemini is driven by the conviction that the business value of technology comes from and through people. It is a multicultural company of over 200,000 team members in more than 40 countries. The Group reported 2018 global revenues of EUR 13.2 billion.

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