

# Tomorrow's Banking Today with Capgemini Connected Banking on the AWS Cloud

Next generation of innovative, flexible and highly customer-centric banking experience



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“The fundamental principle of experience-led banking is that **every transaction the bank has ever done is used to inform the next transaction** and to provide information to the consumer.”

—John Schlesinger, Chief Enterprise Architect, Temenos

Over the past few years, it's become clear that bank customer expectations are changing significantly. Their interactions with other merchants and, particularly, with digital-native companies such as Amazon and Apple have reset both consumer and commercial expectations of banks. Customers are insisting banks provide easy, convenient, and contextual banking anywhere at any time.

To stay ahead, banks must make themselves central to customers' lives, using analytics to deliver natural, intuitive and intent-driven experiences, and value-added products and services. By using analytics to predict what customers need and want, banks can provide those things in the most personalized way, at the time they want, and in the channel they prefer.

Banks are taking digital actions, addressing front-end parts of the banking value chain such as mobile payments or customer self-service. But these innovations aren't sufficient. Digital front-end capabilities require equally nimble mid- and back-office solutions capable of rapid evolution. Otherwise, banks bogged down with old and inflexible legacy infrastructure can fall short of achieving the agility they need, and experience costly operational inefficiencies.

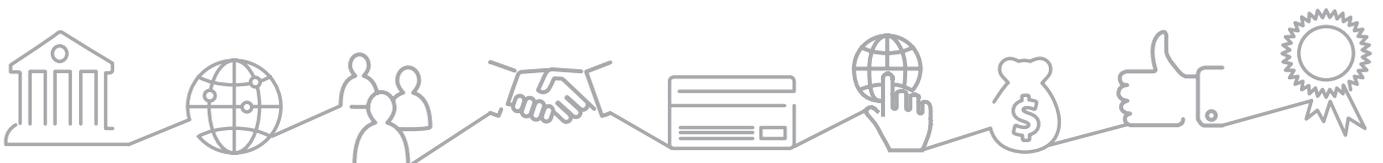
**“More than 75% of banks' IT budget goes towards maintaining ageing IT systems.”**

—Celent, *IT Spending in Banking: A Global Perspective*, Feb, 2015

“Many banks still use decades-old banking platforms; these can result in business limitations **that create serious, if not threatening, barriers to success.**

...If they fail to implement this transformation, banks will find themselves moving at low speed — and will find it hard to win, serve, and retain customers.”

—Jost Hoppermann's Blog, Forrester, November 6, 2014



# Embracing Innovation with Capgemini Connected Banking

For banks trapped in a complex legacy-systems environment, the prospect of replacing legacy platforms is daunting. It's time-consuming, expensive and fraught with risk. But what if there were a better way to provide the entire spectrum of banking services? There is: instead of **creating** a new solution, **curate** it. Adopt a pre-built, end-to-end ecosystem of best-in-class systems to reduce time, cost and risk as well as increase flexibility and agility. Then, rather than consuming vast resources with lengthy technology transformation, you can focus energy on differentiation, customer insight and engagement models.

As a faster, cheaper and easier alternative to lengthy, risky and costly legacy systems replacement, Capgemini **Connected Banking** represents a revolutionary step forward in providing banking services throughout the value chain. Hosted on the Amazon Web Services (AWS) Cloud platform, Connected Banking is a scalable ecosystem of banking products and services based on Temenos Core Banking Built with proven, 'leader in class' industry products and services, this is next generation banking without the costly infrastructure. Delivered on the scalable and flexible AWS Cloud in a utility-based or hosted model, this banking ecosystem is designed for today's varying investment appetites.

An intuitive and highly differentiated banking platform, Connected Banking empowers banks to provide fully integrated, personalized, digital customer experiences across all channels powered by strategic insights and analytics.





## The next generation of customer-centric banking services

Connected Banking is centered on a single value proposition: deliver the best connected banking experience a customer can have, regardless of digital or traditional channels, or entry point for banking services. We help banks deliver a digitally enriched customer experience, supported by personalized, customized and tailored offerings that cater to each individual customer's direct needs and we do it at every step of the value chain from first contact to pricing and payments, from front-end interfaces to fully integrated back-office systems.

### Connected Banking in Practice: Natural Language Voice Recognition



Mary uses her smartphone to call her bank. She is greeted by a digital assistant, enabled by natural language voice recognition. Mary says she would like to check her account balance and is asked to provide a password. She responds, "My voice is my password" and the system's voice-based authentication approves her security.

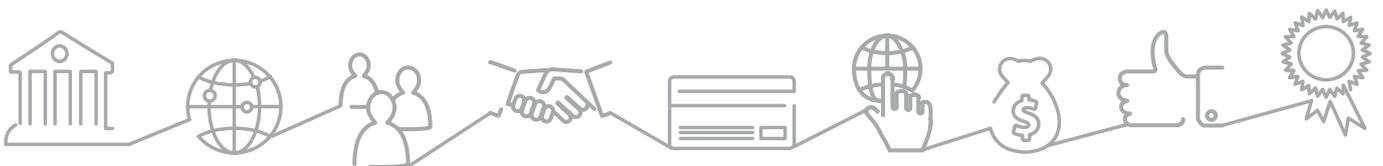
The digital assistant proceeds to report her checking and savings account balances and reminds her that a credit card payment is due soon. Mary says, "I would like to make my credit card payment." Once Mary clarifies which account to debit, the payment is processed and the account balances are adjusted. Mary completes the call satisfied that her needs have been met quickly, easily and securely.

### Connected Banking in Practice: Account Opening



Liz wants to open an account for her minor son with her bank. On her way back home office, she starts filling up the form on her smartphone. Meanwhile, she received an important call. She does not get time to complete the form before she gets home. At home, she opens her laptop and continues where she left off. Once she submits the form, she receives an instant message that the account has been opened and she can choose to upload the document or drop these at the branch.

Liz is happy and satisfied that her banks saves her valuable time and takes into consideration her convenience.



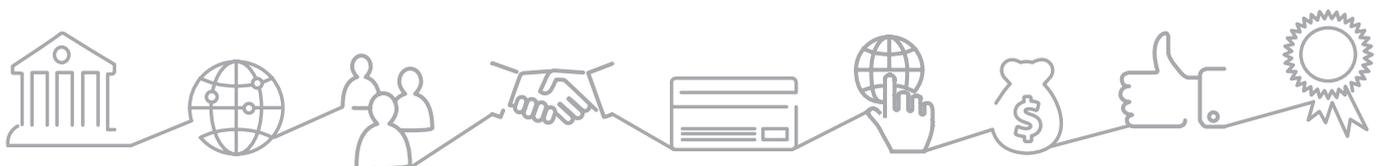
“A cloud-based system of shared IT infrastructure operates at much higher levels of capacity utilization, which effectively makes the system up to **12 times cheaper to run.**”

—John Schlesinger, Chief Enterprise Architect, Temenos

Through powerful customer analytics, bank representatives can seamlessly access every piece of customer or institutional information necessary to proactively structure new client-specific products, address needs and effectively respond to customer demands. By monitoring customer touchpoints such as mobile, Internet and social media, banks can map customer preferences and services. Using this data, banks can quickly react and tailor an offer just to that individual in real-time while he or she is transacting with the bank. Customer-specific needs such as special product pricing, features, discount levels, and loyalty levers can be adjusted “on-the-fly” by an online advisor; the offer can be either pitched proactively to a customer the next time they log in or sent via an automated e-mail trigger. In this way, banks are now able to market to customers individually, truly serving the “Segments of One”<sup>1</sup>.

Capgemini Connected Banking enables banks to tailor user experiences with customer-centric features and to implement advanced security features such as biometrics and natural-language voice recognition. New-product creation, improved decisioning, faster pricing and digital-payment processing are some of the additional capabilities of this integrated digital-applications platform.

The platform helps banks support the performance expectations of customers with integrated and seamless, straight-through-processing (STP) functionality connecting front-, middle- and back-office operations. Connected Banking is architected to deliver on the promise of customer-centric service.



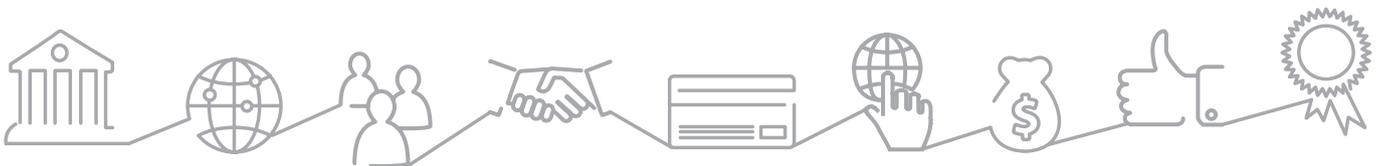
<sup>1</sup> “The customer segment of one” refers to banks’ desire to create a unique, natural, intuitive, and intent driven customer experience for each individual customer.

# An Ecosystem of Market-Leading Systems

Designed based on the principles of flexibility, scalability, and openness, Capgemini Connected Banking on the AWS Cloud can be deployed as either a utility-based or hosted- service model. This option provides banks with the flexibility to implement a solution that best meets their unique needs.

At the heart of the platform is Temenos Core Banking, which serves as the core banking solution for retail, corporate, trade finance, wealth management and Islamic banking capabilities. Temenos Core Banking is a complete front-to-back-office solution that incorporates customer relationship management, data analytics, channel integration, loyalty programs and loan origination as well as general ledger, billing, pricing, and payments processing. Temenos Core Banking employs a modular service-oriented architecture so banks can deploy and integrate the required functionality aligned to support the processing needs of their business operations.

Temenos Core Banking platform is complemented by state-of-the-art, pre-integrated banking solutions for fraud, KYC (know your customer), AML (anti-money laundering), cards, payments, omni-channel customer-experience management, decisioning, arrears and complaints, and regulatory compliance. Numerous leading providers of best-in-class solutions comprise our partner ecosystem, including Experian, First Data, HID Global, SysArc Infomatix, Lombard Risk, BAE Systems, Aptean and FundTech. Capgemini Connected Banking on AWS Cloud is orchestrated as an end-to-end, highly flexible, and secure digital-applications ecosystem to give banks a fast, low-cost, scalable way to address legacy issues.



## Exhibit 1. Strong digital channel capabilities supported by flexible, adaptable, and real-time core

### Loyalty

- Tier-based points system
- Integration with third-party schemes & encash the loyalty points

### Decisioning

- Bank account & address validation
- ID verification
- Behavioral risk evaluation & AML
- Credit risk decision framework

### Arrears & Complaints

- Complaints & case management
- SLA monitoring & alerting
- Search/sort based on customer and case parameters
- Regulatory and MI reporting

### Data Analytics

- Financial intelligence
- Customer intelligence
- Operational intelligence
- Risk intelligence
- Reporting

### Omnichannel

- Multichannel call routing
- CTI Integration
- Webchat, social listening & engagement
- Work queue management
- Branch, contact center & back-office enablement

### Payments

- Payments, SEPA, BACS, CHAPS, FPS & SWIFT
- Straight through processing
- Liquidity management

### Core Banking & Pricing

- Retail, corporate, trade finance, wealth mgmt., CRM, data analytics, risk mgmt. and Islamic banking
- Loan origination: personal, auto & mortgage
- General ledger, billing, pricing & loyalty programs
- Channel solutions and integration

### Cards

- Credit, debit & prepaid
- ATM switch & settlement
- Fullfillment & management

### Fraud, KYC & AML

Real-time online platform for fraud management

- Payment fraud, first party fraud
- Deposit fraud: checks & direct credits
- Card & insider fraud

### ID & V Security

- Multichannel authentication
- Device & multifactor authentication
- Authentication policies & governance



## Temenos Core Banking

### Regulatory & Compliance

Integrated regulatory reporting

- FSA compliant reports
- Mortgage lending & administration returns
- Retail mediation activities returns
- Dodd-Frank, FATCA, Basel III & other regulatory reports
- European Banking Authority & prudential regulation authority reports

# Driving Dramatic Benefits to Both Top and Bottom Line

For banks competing in a digital world, Capgemini Connected Banking is a platform for both growth and cost optimization. Banks are able to predict what the customer wants and deliver incrementally more responsive and personalized digital user experiences with each interaction (Exhibit 2). Providing a relevant experience results **in greater customer loyalty, a larger share of wallet, improved spreads, and overall growth.**

Connected Banking on AWS Cloud also provides **the agility that accelerates time to market.** The flexibility and easy configurability of the platform across front-, middle- and back-office operations expedites the development and introduction of new products and services, and it empowers business users by removing the need to rely on technology teams to implement changes. These features make it possible for banks to deliver personalized and tailored products and services in a few hours instead of weeks or months.

Exhibit 2. Best connected banking experience while reducing cost to serve

Intuitive, highly differentiated customer experience	Serving Customer Segment of One	Accelerated time to market	Enhanced Profitability
			

As a pre-integrated ecosystem of solutions, Connected Banking start-up is quick. Its modularity minimizes the need for customization, and it accelerates the bank's transformation to a customer-centric, experience-led business. The multi-tenant nature of the platform provides horizontal and vertical scalability to support new entrants to the industry, as well as established banking institutions.

## 6 ways banks can save costs with Connected Banking on AWS Cloud

- 1 Lower cost of operations due to increased user and IT productivity and reduced technology cost
- 2 Reduced upfront costs and IT capital investment due to cloud-based platform and pay-per-use model
- 3 Affordable storage and processing capability from optimal provisioning
- 4 Less resources required due to Connected Banking's open standards-based integration which allows for easy "plug and play" capability
- 5 Technical resources aren't needed to run the technology
- 6 Less investment required to maintain compliance with regulatory standards since Capgemini and our ecosystem partners are continuously making their own investments in regulatory expertise and functionality

# Delivered on the AWS Cloud

## Why the AWS Cloud ?



AWS is a secure, highly reliable, scalable, low-cost infrastructure platform in the cloud. It powers hundreds of thousands of businesses in 190 countries around the world. Data centers span the U.S., Europe, Brazil, Singapore, Japan, China, and Australia. AWS is providing greater business agility and significant cost savings across the banking industry. AWS enables banks to capitalize on:

### Scalability

AWS Cloud banking services come with required levels of elasticity. The concept of horizontal scaling allows banks to shrink or grow system usage, depending on the workload. Elasticity means that banks no longer need to hold excess capacity in reserve for peak processing periods, and so they can divert those funds to other business needs.

### Security

The AWS infrastructure incorporates strong safeguards to help protect customer privacy. All data is stored in highly secure AWS data centers, and security scales with your AWS Cloud usage. No matter the size of your business, the AWS Infrastructure is designed to keep data safe. As an AWS customer, you will benefit from a data center and network architecture built to meet the requirements of the most security-sensitive organizations.

### Agility

In a cloud computing environment, new IT resources are available "on demand," which means you reduce the time it takes to make those resources available to your developers from weeks (with a typical, traditional onsite system) to just minutes. The result: a dramatic increase in agility for the organization, since the cost and time it takes to experiment and develop is significantly lower.

Capgemini can deliver Connected Banking either in a public hosted mode or as a hybrid cloud. Banks can choose to deploy Connected Banking based on their business requirements and approach. Consumption-based, operational-expense-aligned pricing is structured per module, per account and is linked to growth. Clients can also choose to run their own platform.

AWS financial services customers have experienced that moving to AWS results in higher levels of security than **in on-premise environments**. Connected Banking on the AWS Cloud gives our clients access to industry-leading levels of security, data protection and compliance processes.

This Capgemini solution meets a broad set of international and industry-specific compliance standards including ISO/IEC 27018 , ISO/IEC 27001/27002:2013, PCI DSS, CDSA, CJIS, CSA CCM, FDA 21 CFR Part 11, FERPA, FedRAMP, FIPS 140-2, SOC 1, and SOC 2 as well as country-specific standards. Adherence to the strict security controls these standards mandate is audited through rigorous third-party assessments and customers can verify the implementation of many security controls by requesting audit results.

In order to provide banks with the necessary expertise and experience, Capgemini has invested in training and certifying over 1000 AWS-trained Capgemini consultants and architects. Additionally, AWS Cloud technologies and innovations are integrated into Capgemini's Cloud Choice program. *Capgemini Cloud Choice* with **AWS** delivers a cohesive, end-to-end set of offerings to move your workloads from on-premise infrastructure to the AWS Cloud and rapidly deliver a cloud-first way of working.



# Connected Banking Puts You Ahead of the Game

Connected Banking provides a platform to carry banks far into the 21st century, and Capgemini has the right experience to deliver it. Our capabilities span the full banking value chain, helping us stand apart from traditional core-banking providers. We are the only provider with a fully tested and implemented solution.

Working with a single provider like Capgemini—a proven, global systems integrator—that has control over all components of design, implementation and ongoing management helps banks implement the solution they want quickly and with less risk. With a clear vision of a future influenced by disruptive technologies, a deep understanding of financial services and a proven global delivery capability, Capgemini can cost-effectively accelerate your journey to experience-led banking.

Exhibit 3. Proven expertise to accelerate your transformation journey

	<p><b>15,000+</b> banking professionals with <b>2,000+</b> core banking specialists, <b>4,000 +</b> cards and payments professionals</p>		<p>Successful delivery <b>+1,000</b> projects with <b>95</b> core banking projects</p>
<p>Preferred global systems integration partner for <b>First Data's VisionPLUS®</b> <b>20+</b> years experience with <b>100+</b> Implementations</p>		<p>Serving <b>nearly half</b> of the world's leading banks*</p>	
	<p><b>2,000+</b> digital specialists across the globe</p>		<p>TEMENOS Platinum Partner Delivered <b>12</b> model banks and <b>20+</b> T24 upgrades</p>

\*As of the Forbes Global 2000 list for 2015, released on May 2015

Customer-centric banking experiences and customer journeys require innovation to drive intelligent multichannel banking; socially “engaged” banking. Plus they require data and the financial and non-financial ecosystem to support it. Talk to us about a new way to attain and offer innovative, connected banking services for your customers.

## A Case for Connected Banking

A multinational UK bank needed a scalable, customer-centric solution capable of supporting their business processes across multiple jurisdictions. Following a 3-day Advanced Solutions Environment workshop, the bank selected Capgemini to implement a Connected Banking solution. We have been able to configure and prove this framework in a Model Office environment that demonstrated some of the integrated capabilities of the platform within 4 – 8 weeks thereby building understanding and confidence in the solution. The bank’s ultimate goal: to decommission its legacy core-banking systems, reducing operational costs and gaining the agility needed to deliver the next generation of innovative, customer-centric banking services.”



## 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 200,000 team members in over 40 countries. The Group reported 2016 global revenues of EUR 12.5 billion.

Visit us at

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For more information, please contact us at [banking@capgemini.com](mailto:banking@capgemini.com) or visit us at [www.capgemini.com/connectedbanking](http://www.capgemini.com/connectedbanking)



You can now gain first hand experience of Connected Banking capabilities by requesting for a product tour.

**Register here** and we will show you how we are helping banks build world-class platform to deliver truly customer-centric banking service.

## People matter, results count.

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