BROADCOM SOFTWARE

API-Driven Innovation in Banking and Finance

HOW FINANCE INSTITUTIONS ARE TRANSFORMING THE CUSTOMER EXPERIENCE

Executive Summary

Banks, wealth management firms, payment providers and other financial institutions face deep disruption in the form of evolving market demands and new regulatory pressures. These companies are having to rethink their established priorities, processes and products, so that they can lay the groundwork for future success. Software is the key.

The digital transformation is fully underway. Many banks now have more developers than Microsoft. The challenge lies in creating innovative, high-quality customer experiences and services at the speed the market is moving, while remaining compliant with shifting market regulations. This ebook explores this topic across three sections:

63%

OF BANKING EXECUTIVES
say business is already disrupted by digital technologies

76%

SAY IT WILL
be in the next 12 months.[1]

The Changing Business of Banking

HIGHLIGHTS

- Growing customer expectations, digital disruption and new competition are increasing pressure on banks to innovate with their services.
- In the meantime, new regulations, such as PSD2, are forcing banks to open their customer information to third-party providers (TPPs).
- Banks have a choice: perpetuate the monolithic model with one-off APIs that meet a specific customer or regulatory requirement, or build a new "banking platform" that supports future compliance, scalability and flexibility to innovate.

1. "The State Of Digital Business, 2015 To 2020," Forrester Research, Inc., November 2, 2015.

New Trends Driving Change in Banking

The banking landscape has changed significantly in recent years, and there are three converging trends that have acted as a catalyst.

Growing Customer Expectations

The proliferation of mobile devices, digital payments and "connected everything" has trained today's customers to expect easy-to-use, anytime/anywhere capabilities from every service they consume. In the financial world, this translates to universal expectations for fast and simple transactions, whether they are looking up statements, making payments or executing transfers.

Digital Disruption

To meet growing expectations, organizations are exploring ways to offer new digital services to customers that provide enhanced value—everything from new payment options (e.g., digital wallets) to fraud alerts on wearable devices and so on. There's also disruption on the infrastructure backend, as new advances like blockchains—distributed databases that maintain a continuously growing list of transaction records—will impact the way financial institutions do business in the coming years.

New Competition/ Co-opetition

Whether it's new products from existing players or brand-new startups building modern financial services from the ground up, today's market is flooded with competitors and potential partners hoping to ride the digital wave, meet customers' evolving needs and ultimately capture market share. Some will be directly competitive, others may threaten only a niche part of the bank's capabilities and still others might provide a product or service that relies on the bank, but offers a customer experience the bank cannot.

LOOKING FOR MORE ON PSD2?

Take a deeper dive into this critical regulation.

Preparing for EU Payment Security Directive (PSD2) and How CA Can Help

DOWNLOAD EXECUTIVE BRIEF

Evolving Regulatory Pressures and PSD2

In the past, such regulations as the Payment Card Industry Data Security Standard (PCI DSS) and Sarbanes-Oxley (SOX) required banks to overhaul their internal processes, connectivity and data security. This spurred tremendous investments in technology to help them achieve compliance.

Today, the legislative trend involves monitoring all aspects of connections happening outside of the enterprise—with partners, competitors, startups and even individual customers—in hopes of protecting customer choice, supporting competition and avoiding monopoly practices. The revised EU Payments Services Directive (PSD2) is leading this charge by requiring financial institutions and other organizations that receive electronic payments to open their customer information to TPPs.

So how does PSD2 differ from other regulations?

For the first time, legislation is forcing banks to open up part of their internal payment process. They must allow other parties (e.g., Account Information Service Providers or AISPs) to access customer accounts, which is known as the "Access to the Account" concept (XS2A). In practical terms, this means providing a secure and authenticated method for TPPs to access customer data (e.g., via an API), so it can be consumed by a mash-up or composite application.

Regulations like PSD2 create both new challenges and new opportunities for banks who are looking not just to survive in an increasingly open market, but to capture and keep customer interest with new payment and financial services innovations. And with the new General Data Protection Regulation (GDPR), the penalties for failure to protect consumer information can be quite costly.

The New Banking Platform: Opportunity or Burden?

Until recently, banks could control the entire banking experience, from systems of record through the transaction to the customer experience (i.e., via a "closed" system that included a bank's point-of-sale app, website and mobile app). And while this "monolithic" model kept all processes and technology components under enterprise control, it has proven to be incompatible with both customers' preferences for unique, personalized experiences and evolving regulatory requirements, such as PSD2 and GDPR.

While some in banking see these changes as a burden, visionary executives view the disruption around technology, regulations and customer expectations as a driver for retooling their IT infrastructures into a modular "banking stack," in which a programmatic platform provides direct access to a variety of banking capabilities.

A well-designed and flexible "banking platform" enables banks to more easily and quickly strike the right balance between protecting and advancing its own interests around customer relationships, fees, deposits and so on, and opening up access and opportunities for innovation to meet consumer wants.

MONOLITHIC MODEL

BANKING PLATFORM MODEL

APIs

88%

OF BANKS SURVEYED

think internal APIs are essential for regulation and compliance, back-office systems management and for leveraging big data.[2]

The New Banking Platform

HIGHLIGHTS

- The "New Banking Platform" is driven by APIs that sit between a bank's backend services and the front-end experiences provided by the bank and TPPs.
- This new platform empowers banks to employ new business models (e.g., providing infrastructure for TPPs) and new use cases (e.g., acting as a trusted identity and authentication provider for TPPs), while also adapting to emerging technology disruptors, such as blockchains.
- By leveraging an API-driven platform, banks can increase customer satisfaction, expand into new markets, future-proof their IT infrastructures and accelerate time to market of new products and services.

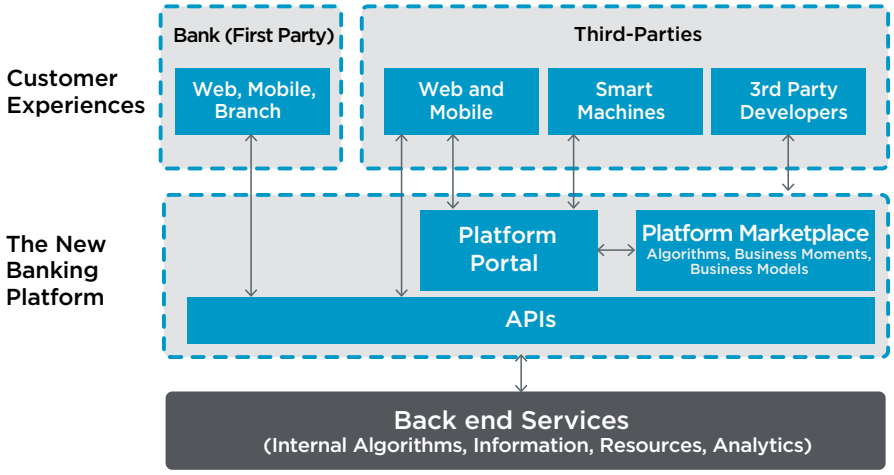
2. APIdays and Open Bank Project. "Banking APIs State of the Market." Study commissioned by CA Technologies. November, 2015.

Building the New Banking Platform

As regulations like PSD2 and GDPR go from draft standards to required mandates, the fact is that most banks and financial organizations will have to open up their data and capabilities, whether they want to or not. Some will do the bare minimum; for example, creating an ad-hoc, single-use XS2A API. But they won't be able to scale that effort to comply with future regulations or create new product and service innovations.

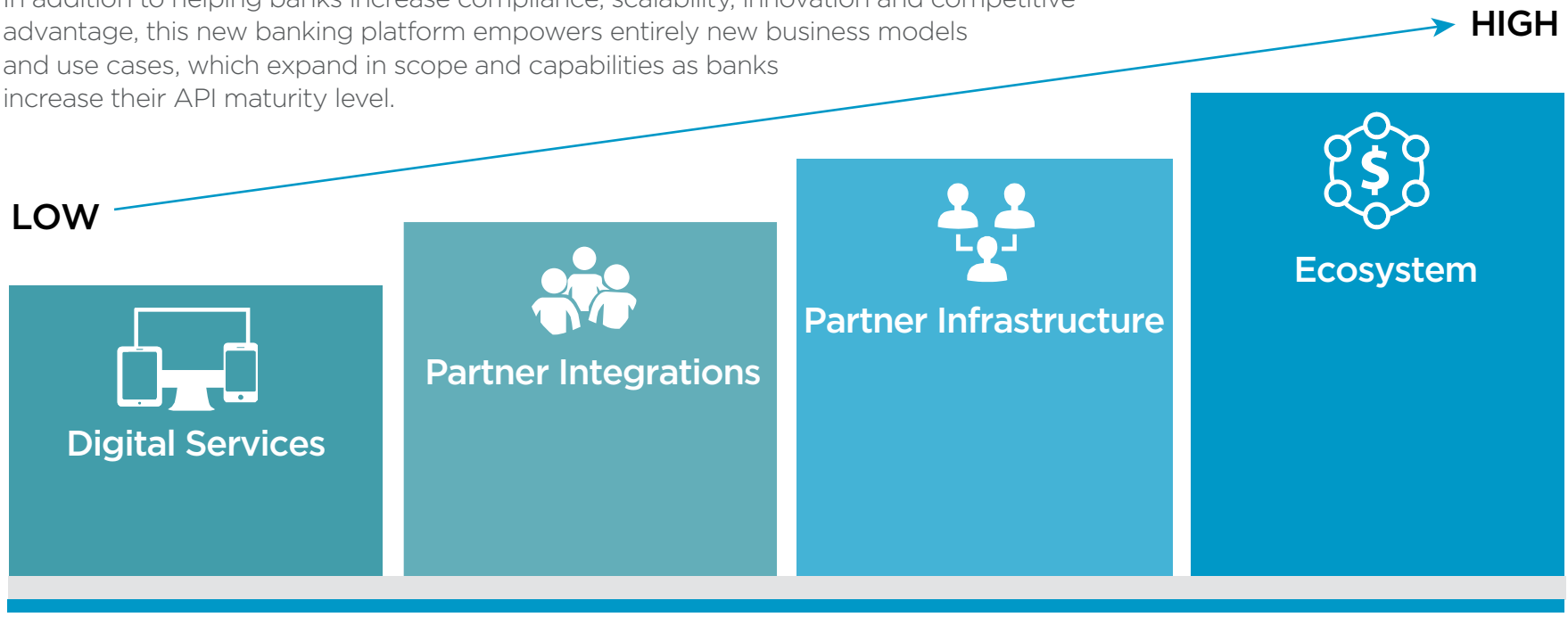
The other option is to view PSD2 and GDPR compliance as an opportunity to support a larger digital transformation strategy by building a "New Banking Platform" around APIs. This platform—which consists of the APIs themselves and, optionally, an API portal and marketplace where developers can access the APIs, be authenticated and get support for partner services—exists between a bank's backend services (e.g., algorithms, data, analytics, etc.) and the front-end customer experiences provided by the bank and TPPs.

It's worth noting that the majority of financial services organizations today are focused on building an API strategy and/or platform and view the marketplace as a potential project for the future. Leading businesses in other industries, such as retail, have proven that opening up APIs to a partner community and monetizing an API marketplace can lead to new and lucrative business opportunities.

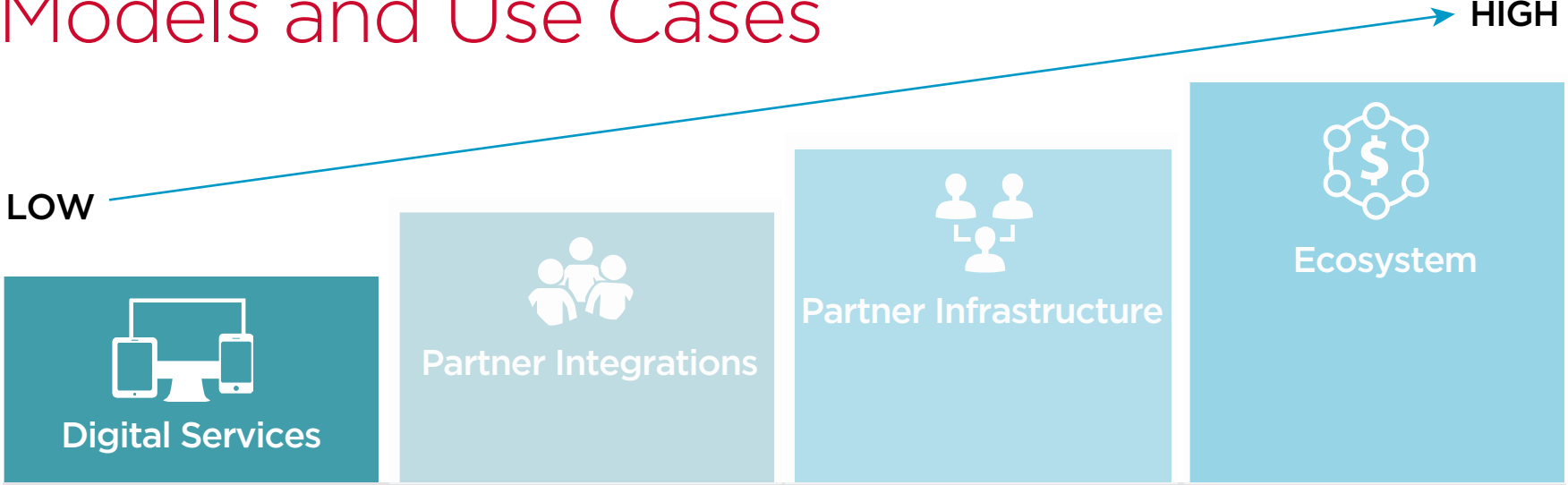


Unlocking the Potential of New Business Models and Use Cases

In addition to helping banks increase compliance, scalability, innovation and competitive advantage, this new banking platform empowers entirely new business models and use cases, which expand in scope and capabilities as banks increase their API maturity level.



Unlocking the Potential of New Business Models and Use Cases

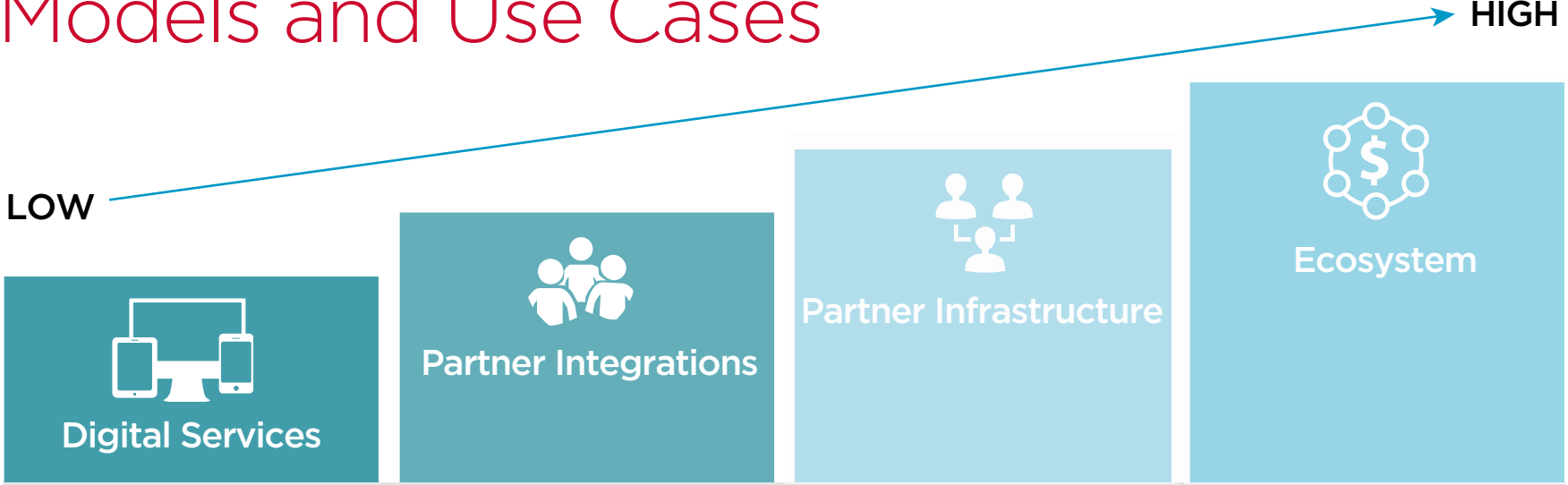


Banks develop ad-hoc APIs, often driven by a regulation like PSD2, that digitize simple transactions (e.g., balance lookups or transfers) and make them available for third-party use (e.g., Mint.com). Most banks are at this stage today.

APIs that enable banks to bring traditional services to the Web and mobile devices:

- Web and mobile apps with account info, transfers, etc.
- Bank product info, locations, rates, etc.
- Camera phone check deposits, biometric login

Unlocking the Potential of New Business Models and Use Cases



Banks expand their business model by making TPPs their customer. They've developed a top-tier API with numerous capabilities, and they are integrating it with select and trusted partners. While the API itself enables the connection, the requisite SLAs, agreements, documentation and support have to be managed "offline."

APIs that extend bank services to trusted partners:

- Digital payments (i.e., online, smartphone/ wearables, IoT)
- Transfers between institutions
- Account data and transactions made available in third-party applications (e.g., personal finance sites or apps)

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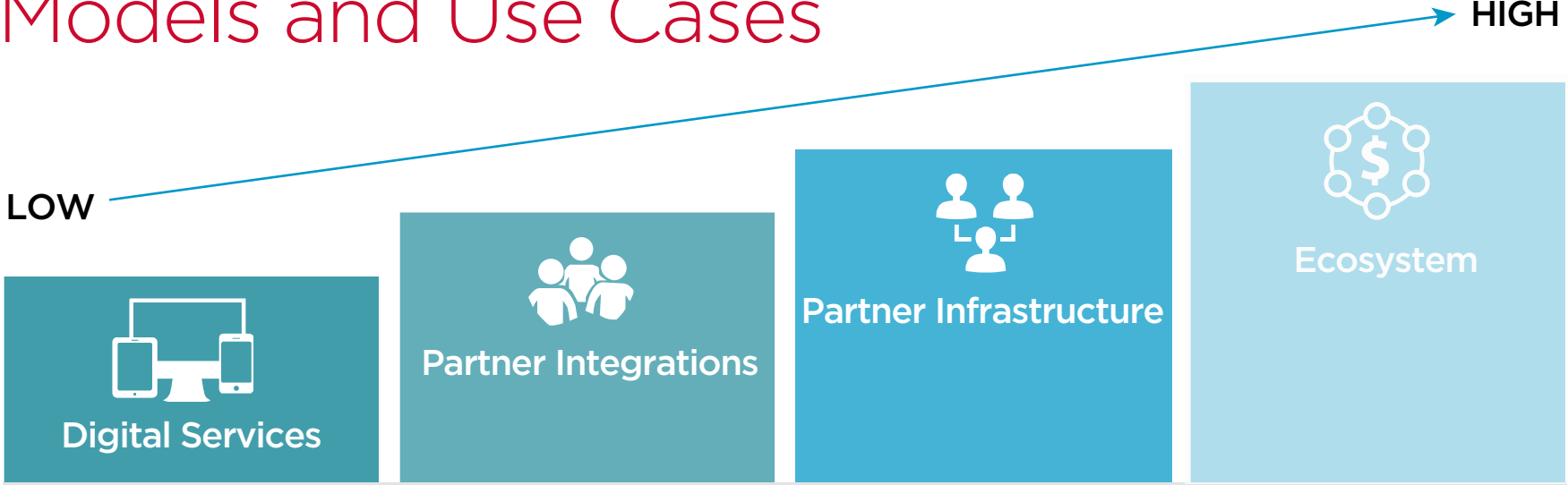
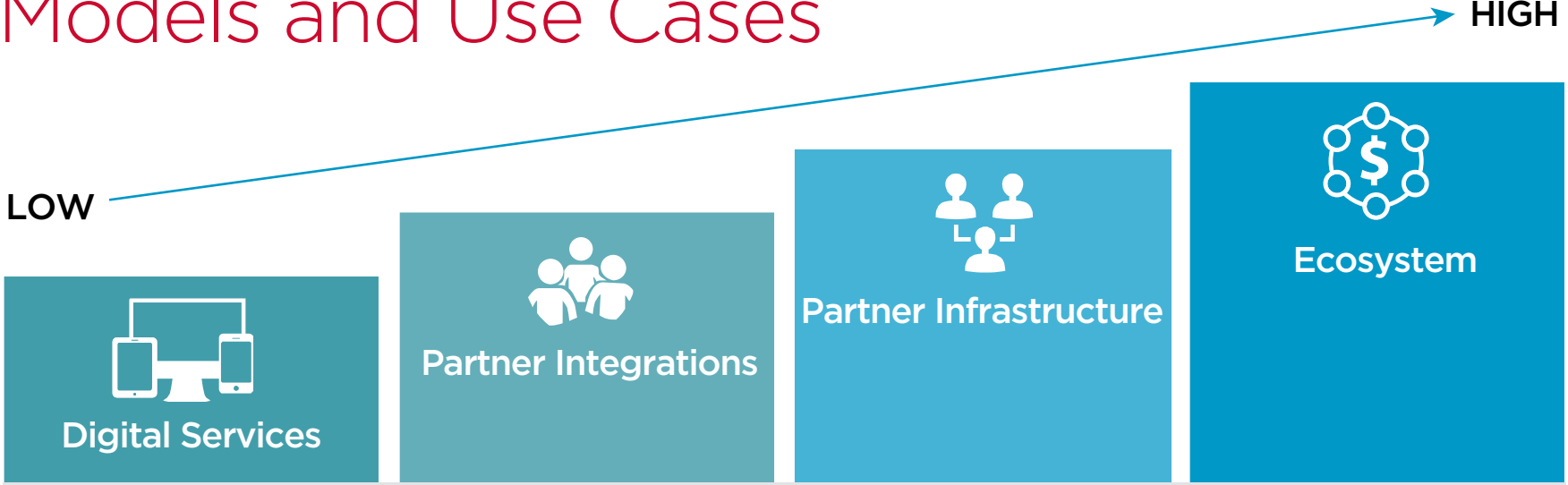


Banks have had success with some integrations, and they're looking to roll them out to a larger community of partners via a portal or marketplace. Banks offer base capabilities for anyone who wants to mash them up or create entirely new uses cases. And they not only provide the backend for existing user experiences, but infrastructure for new ones as well, with standardized processes around SLAs, support and so on.

APIs that foster unlimited third-party connections and the development of innovative, new products and services:

- Loyalty programs (bank-led or partner-led)
- Peer-to-Peer lending or transfers where the bank acts as a clearing house
- Bank as authentication service (i.e., trusted identity)

Unlocking the Potential of New Business Models and Use Cases



As banks continue to make money and learn from the TPPs for which they're providing capabilities and infrastructure, they can make deeper investments into creating innovative, new capabilities that create competitive advantage.

APIs that push the limits into a broad ecosystem, creating entirely new sources of revenue and enabling the bank toleverage entirely new technologies:

- Future transaction models or technologies (e.g., blockchain)
- Big data/data science APIs (e.g., real-time market info, capital flows, customer experience data, etc.)

FLEXIBILITY TO "DIAL UP" PARTNER INTEGRATIONS

One of the most important features of an API platform is the flexibility to protect your own interests, services and customer relationships, while opening up data and transactional capabilities to TPPs. For example, imagine allowing "basic" partners to access customer balances but charging "platinum" partners to support transfers and detailed balance histories. Now imagine controlling all of that automatically with software.

Innovative Use Cases Create New Benefit Opportunities

Many banks are driven to develop an API platform by new regulations or customer demands, but the benefits they have the opportunity to realize—in the short term and the future—can greatly exceed the scope of these initial plans. For example, they can:

Increase customer satisfaction—Providing new and extended services while protecting customers' data and privacy enables banks to strengthen the commercial relationship they have with their customers.

Prevent disintermediation—Banks can become TPPs themselves, becoming the preferred front-end for customer payment services, which puts them in a strong position to own the relationship and propose new products and services.

Future-proof their IT infrastructure—As banks move from the transaction-based, monolithic configuration to a more customer-centric, "services broker" approach, they'll be better positioned to react to new regulations and digital market trends (e.g., mash-ups, composite applications, etc.).

Accelerate time to market—To stay ahead of competitors and ever-evolving customer demands, banks must be able to deliver new, high-quality services faster than ever. By turning common functions, like authentication, access control and risk management, into modular microservices, banks can standardize and accelerate the deployment process and achieve economies of scale.

THE TOP FOUR REASONS BANKS ARE PURSUING AN API STRATEGY:

1

To help speed up product development and time to market

2

To create strategic/ competitive advantage

3

To enable collaboration with startups and fintech partners

4

To help meet regulatory pressures like PSD2[3]

A Model for Digital Transformation

HIGHLIGHTS

- Broadcom Software recommends a three-step approach to transformation that includes modernizing backend services through APIs, securely opening these services up to both internal and third-party stakeholders and innovating with new products and services.
- Layer7 API Management can help accelerate and simplify this transformation with solutions for creating, managing, securing and monetizing your APIs.
- With Layer7 API Management, you can simplify API management and accelerate time to market of new applications, which can lead to increased revenue and improved user and developer experience.

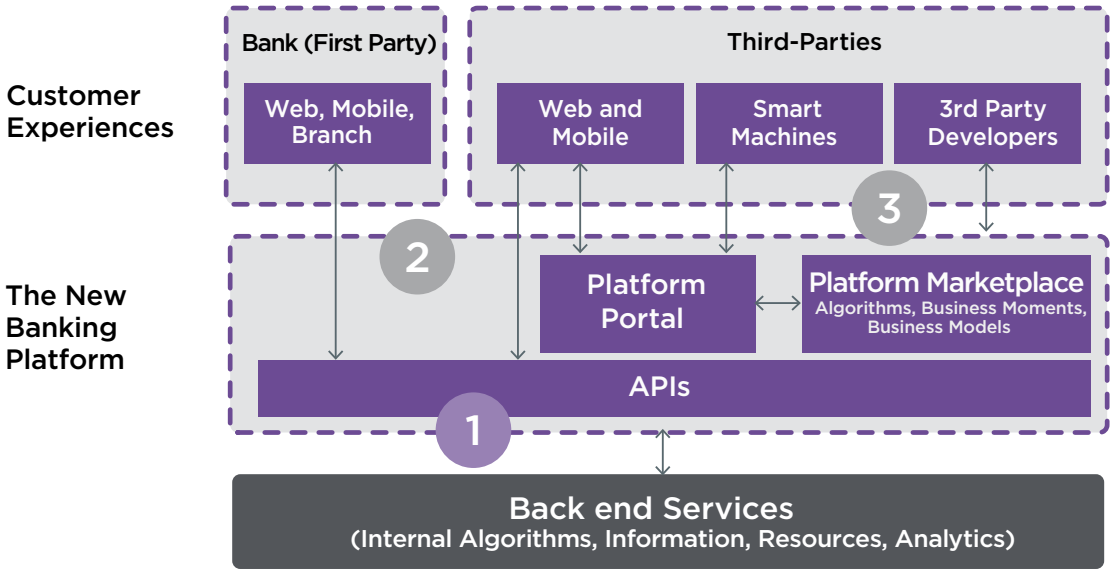
3 APIdays and Open Bank Project. "Banking APIs State of the Market." Study commissioned by CA Technologies. November, 2015.

A Three-step Process for Transformation

You understand the market forces. You know customers' expectations are increasing. You can see the regulatory changes on the horizon, and you're intrigued by the new opportunities and use cases afforded by an API-driven banking services platform.

The only question now is, **"Where do we start?"**

The Layer7 team recommends a three-step process;
click the numbers to see what each step entails.



Step 1 | Step 2 | Step 3

Modernize

Step one is all about getting a quick API "win" around a single project (e.g., PSD2 compliance) and laying the groundwork for the development of your API-driven banking platform. The focus should be on integrating TPPs with your standard financial services, providing strong and risk-based authentication to protect your customers and potentially even setting up an API portal where TPPs can securely subscribe to your services.

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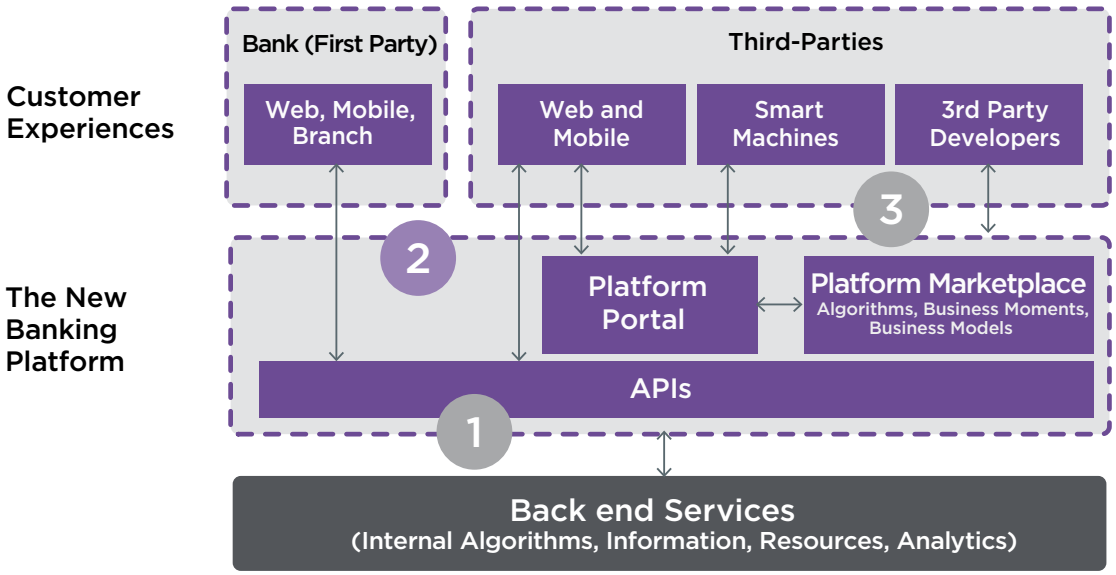

Step 1 | Step 2 | Step 3

Open

During step two, it's time to begin developing a series of APIs that decouple mainframe services from customer experiences, such as online or mobile banking applications, so they are easier to maintain and evolve. You can also decouple your security services via APIs, making them independent of the underlying technology, so you can standardize how security is provided at this transformation layer.

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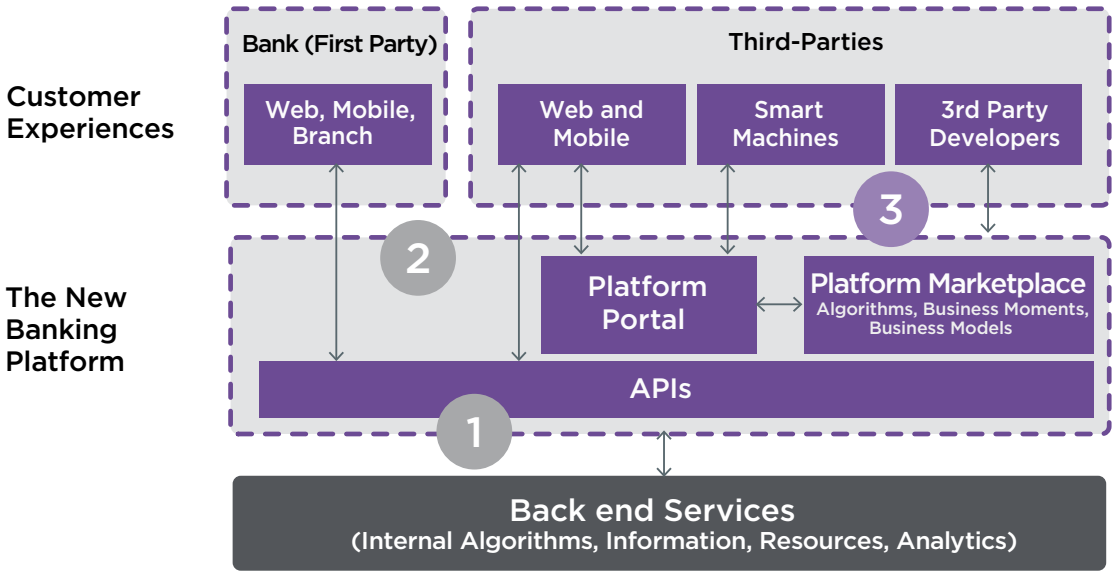


Step 1 | Step 2 | Step 3

Innovate

By step three, your ultimate goal is to have a complete suite of financial services APIs that decouple all client applications from core backend services. With this new banking platform, you'll be able to develop and maintain new services faster and more easily than ever before. You'll reduce maintenance costs, decrease time to market and simplify integration with new technologies and TPPs.

WHAT ROLE DOES LAYER7 APIM PLAY IN YOUR BUSINESS?

Successful digital enterprises are able to effectively create, secure and consume APIs for mobile, cloud and IoT. Read the API Management Playbook for a complete review of the 13 most common uses of API Management.

Introducing Layer7 API Management

The new banking platform is heavily reliant on APIs to provide the connectivity required to power the new banking business models and use cases discussed previously. This means that the foundation of your API program must be trusted, reliable and secure—which can be difficult to achieve while also meeting the uptime, reliability, scalability and safety levels required by your brand. The Layer7 API Management product family helps you address these challenges.

Layer7 API MANAGEMENT EMPOWERS YOU TO:

Integrate and Create APIs

- Modernize SOA, ESB, SOAP
- Create modern REST services
- Orchestrate multiple systems of record
- Ensure reliability and scalability

Integrate and Create APIs

- Leverage monetization and analytics tools
- Optimize and capitalize on the way you share your valuable data

Secure the New Banking Platform

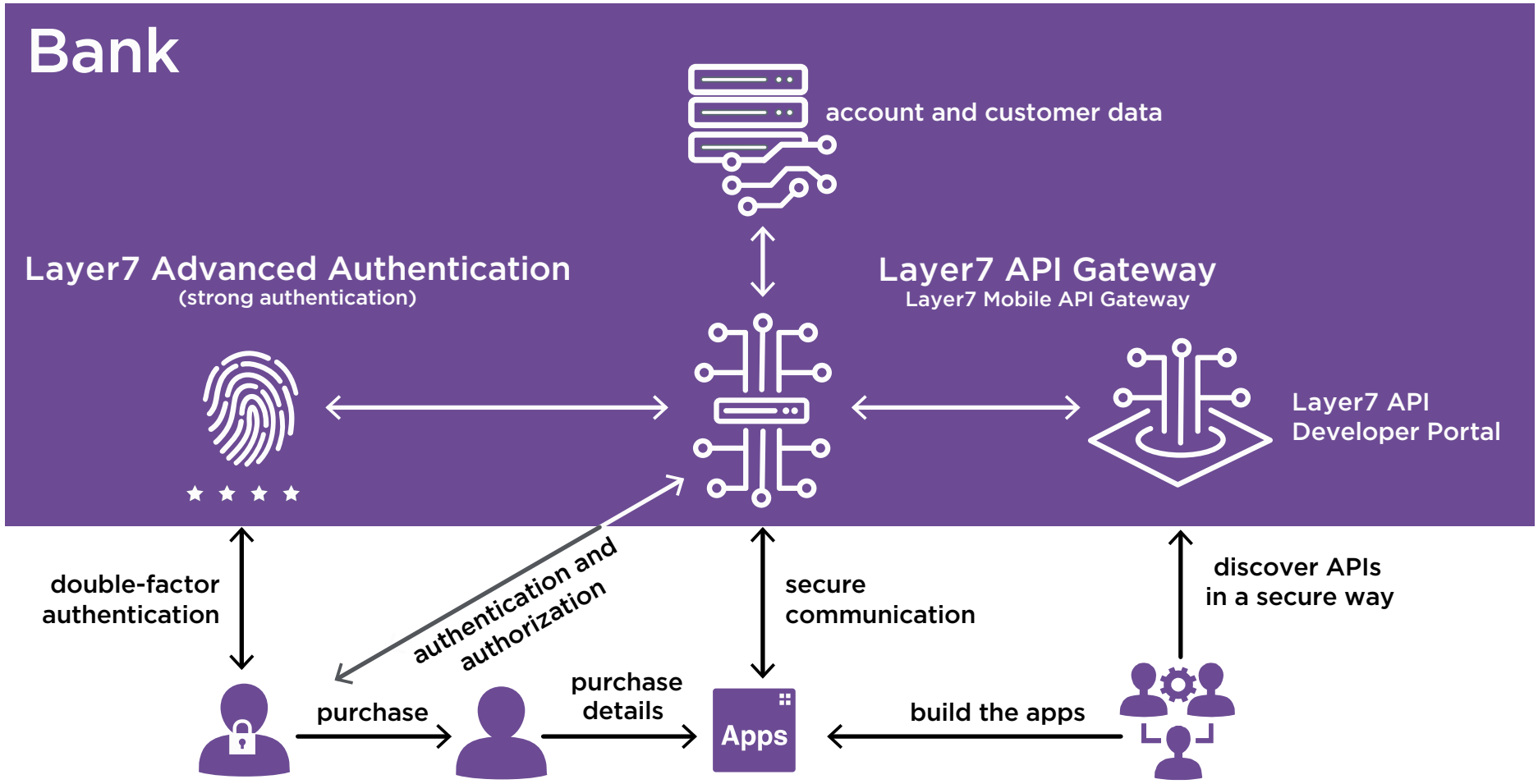
- Protect data in transit from the app to the API, especially for mobile and IoT
- Provide industry-leading authentication

Accelerate New Banking Services Development

- Provide core data, functionality and security for mobile banking and IoT apps
- Empower developers to focus on creating better, more innovative products and services

Financial services companies require ultimate control over their customer data and where it resides. To support this, Layer7 API Management offers a hybrid deployment model where the gateway can be run on-premises or within the enterprise firewall, so you can **meet your strictest security, performance, control and auditing requirements.** Other components that are not part of the critical financial data chain, such as the API portal and marketplace, can be split out and run as a cloud service.

Layer7 API Management in Action



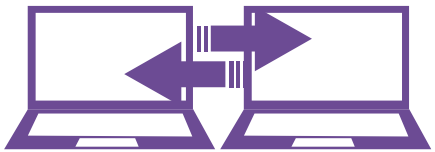
The Business Impact of Layer7 API Management

For banks that are developing many large APIs, across multiple business units and geographies, Layer7 API Management can help reduce the time and effort required to manage them—while also enabling applications to get to market more quickly. This leads to increased revenue and improved user and developer experience.

According to a Forrester Consulting Total Economic Impact™ (TEI) study commissioned by Broadcom Software, Layer7 API Management can provide the following benefits for a composite organization, globally distributed with around 50 projects per year requiring APIs*:

INCREASE CUSTOMER SATISFACTION/PREVENT DISINTERMEDIATION

50% to 90%+
improvement in API management productivity, freeing up time to focus on innovation



FUTURE-PROOF IT INFRASTRUCTURE

6 weeks to 2 days:
Reduction in time to perform data transformations due to easier backend integration with legacy systems

FUTURE-PROOF IT INFRASTRUCTURE

97%
improvement in API time to market, from 90 to 3 days

3 YEARS = $4.2 MILLION
IN NET BENEFITS

4. Forrester Consulting, "The Total Economic Impact™ Of CA Technologies Layer7 API Management: Cost Savings And Business Benefits Enabled By Layer7 API Management, * Commissioned by CA Technologies, April, 2015. * The customer benefits identified above were determined from a historical study of existing installed Layer7 API Management customers and may not be representative of the results achievable in the future by existing or new Layer7 API Management customers.

Your Transformation to the New Banking Platform Starts Here.

APIs are the building blocks of your digital transformation, empowering you to evolve your core offerings and meet the demands of today's connected world. Layer7 API Management accelerates your transformation by providing the capabilities you need to modernize your services, secure their integrations, deliver better customer experiences faster and capitalize on new opportunities.

PLEASE VISIT **THE LAYER7 PRODUCT PAGE**

BROADCOM® SOFTWARE

For product information please visit our website at: broadcom.com

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