

# Building a Composable Enterprise through API Transformation



## Abstract

Over time, financial institutions have realized that different technology teams dispersed across multiple lines of business (LoBs) and geographical regions are repeatedly developing common capabilities to support similar yet distinct business initiatives. Technology teams have very similar requirements, such as extracting data from the core banking systems, yet they continue to build these services in isolation.

The solution is to provide a composable platform offering strong multi-tenant capabilities such that it can open APIs for multiple separate implementations across various IT teams. Reusability is what makes this platform unique: capabilities in an application or composite service are leveraged by other applications and services, creating an efficient marketplace of business capabilities.

To ensure maximum value from the APIs, we must make sure that for each end-consuming line-of-business IT team, they are easy to discover, consume, and reuse.

## Key Takeaways

- How banking as a service (BaaS) framework can be utilized for internal technology transformation
- Features and benefits of BaaS
- Key drivers and objectives of adopting BaaS
- Key considerations and challenges of publishing APIs
- Recommendations to facilitate and accelerate the adoption of APIs

## Introduction

Web-centric architecture is a critical enabler of the composable enterprise vision. APIs must be reusable and modular, and nonfunctional requirements like compliance and security must be ensured. APIs are defined, managed by the team that created them, and made available to those deemed fit.

To give you an analogy, think about a franchise business like KFC. The company has core assets such as recipes, store designs, and offers that are reused by franchisees who carry them out in a self-service manner. KFC empowers its franchisees by educating them on best practices and ensuring quality through established processes and standards. Finally, it retains control over the assets and has full visibility into the entire operation. This business model has two distinct advantages.

- First, the franchise model allowed KFC to scale and expand globally at a much faster pace.
- Secondly, franchisees in local markets can innovate as per their own business needs (e.g., localized items on the menu)

The intent of this point of view is to help you understand how banking as a service (BaaS) framework can be utilized for internal technology transformation which is nothing but an extension of a typical API management program.

Banks are utilizing BaaS to componentize and standardize the internal IT infrastructure for both the back and front office applications. This enables banks to build an interoperable architecture to fit and comply with various business and market requirements and also bring in the ability to integrate with third parties and fintech institutions through open API.



## Drivers and Objectives of Adopting BaaS

Enterprises build hundreds of APIs, and many of those APIs are scarcely used, or many may sit unused – an expensive proposition. BaaS can address integration challenges across applications and data in a single unified platform.

BaaS provides a framework for new applications to be seamlessly “plugged in” to the network of reusable assets without developers needing to write additional code.

### Drivers

- Isolated and disparate systems in various lines of business and geography
- Legacy technology with an ageing application portfolio
- Inadequate and inconsistent omnichannel customer experience
- Lack of business agility and innovation capability
- There is currently no specific base platform suitable for building digital use cases and data assets
- High cost of operations

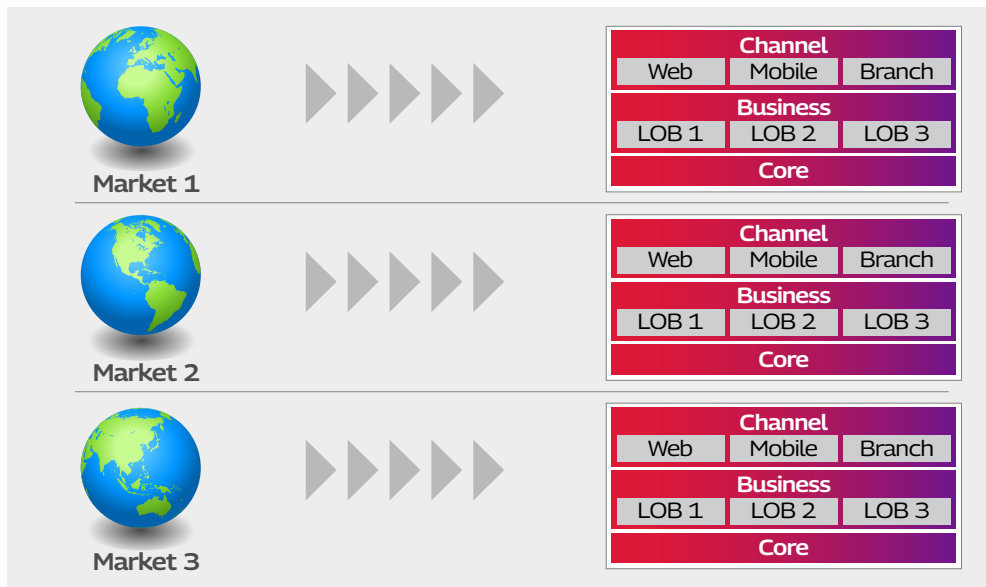


Figure 1: Drivers of adopting BaaS

### Objectives

- Rationalize IT assets across mergers and acquisitions and build standardized architecture entities in various countries
- Replicate products across geographies seamlessly through a consistent API layer
- Containerized, modular services that can be selectively exposed to channels making them lightweight
- Deliver a true digital omnichannel portfolio of digitally enabled integrated products and services

## Banking as a Service (BaaS)

With APIs as the foundation, banks can build and utilize a "banking as a service" (BaaS) framework for reusable technology assets, technology operations, and a superior customer experience.

Many of us might associate BaaS as an outward looking model that allows non-banks to offer core financial services to their customers by integrating with banks via APIs. Banks, however, are now utilizing BaaS to componentize and standardize the internal IT infrastructure for both back and front-office applications. This enables banks to build an interoperable architecture to fit and comply with various businesses and market requirements.

**The value of API's doesn't lie in its existence alone, but in its consumption.**

BaaS enables enterprises to draw from existing digital capabilities when building new products and services without having to start from scratch.

Imagine BaaS as a huge assembly line on which you can build your IT applications from microservices - various components and modules are already developed and available for use - and APIs connect with the microservices to produce the finished product.

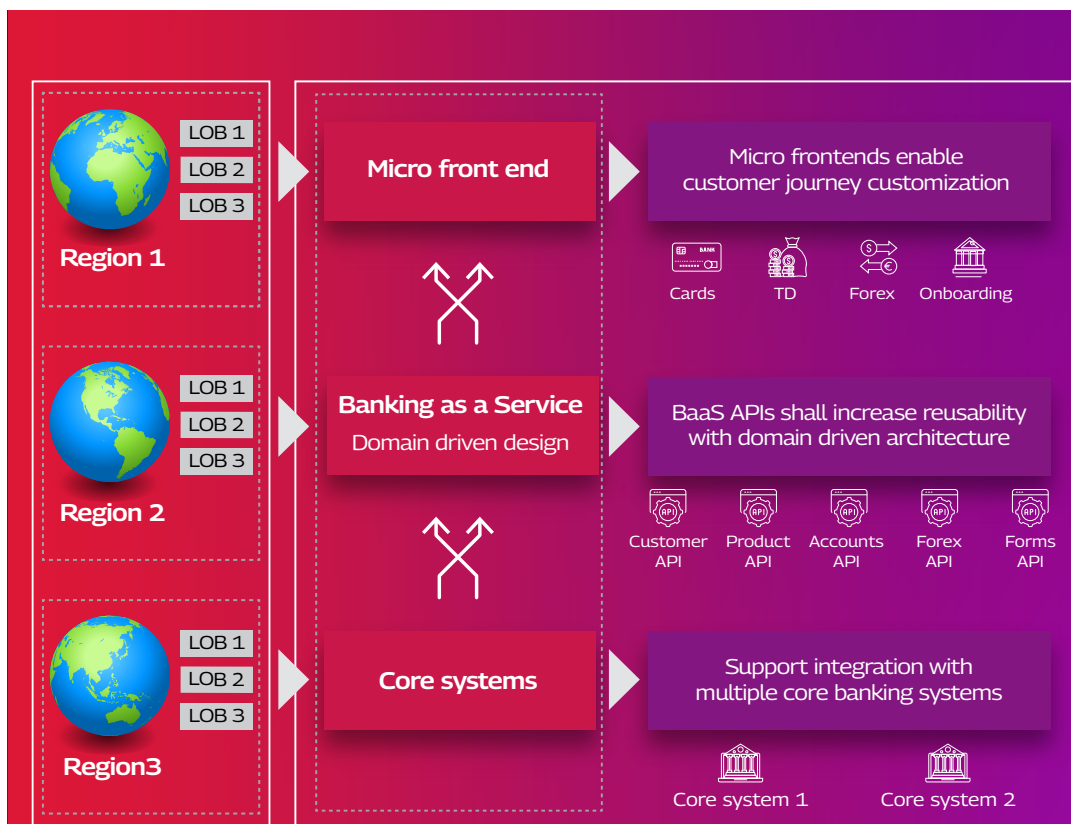


Figure 2: BaaS: Banking as a Service Framework

## Features of Banking as a Service (BaaS)



### Reusability

- Designing and building once and reusing across different lines of business and countries
- Replicate products across geographies seamlessly through a consistent API layer



### Self Service

- Create awareness of the assets available to drive self-service and reuse
- With API catalogs business leaders and product managers can effectively build new products and features in an almost no-code environment



### Reduce IT Complexity

- Rationalize IT assets across the enterprise
- Containerized, modular services can be selectively exposed to channels making them lightweight
- Easing the pressure on IT and freeing up time for innovation

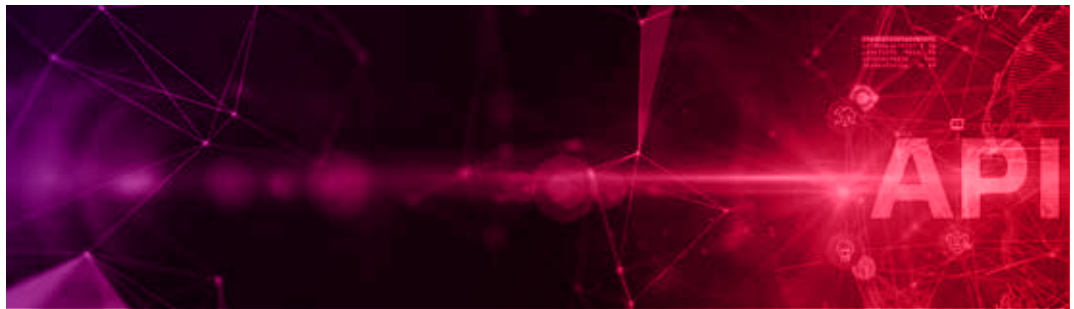


### Enabling Parallel Development

- By creating API libraries that are independent of application code, it's possible to run multiple development efforts in parallel, instead of single-threaded development, enabled by shared resources

## Benefits of Banking as a Service (BaaS)

- Shorter time to market for new products and services. Up to 2 - 5X faster
- Lower cost to serve. Up to 35% Reduction in maintenance cost
- Increased productivity of tech development. Up to 60 - 80 % lower defect rates
- Improved security and governance. Up to 70% decrease in security costs





## Key Considerations

### Publishing APIs introduces several challenges and risk for the enterprise

#### API Discovery: How to ensure quick API discovery?

- Single source of truth: create an API catalog and documentation for better service discovery and easier adoption
- Provide great documentation to understand what your API offers, how to use it, and what to do when they are ready for integration

#### API Security: How do you protect your assets from abuse and attack?

- Ensure that appropriate functionality is available
- Encryption where necessary

#### API Governance: How do you govern access to and usage of your APIs?

- Manage the environment and track dependencies, development, and changes to the catalogs or libraries.
- Review versioning and extensibility across regions

#### API Compliance:

- Modernization of any workload maintains all regulatory compliance that existed prior to transformation

## Critical Question: How to Improve API Adoption?

The term "API adoption" refers to a broad idea that explains how users interact with your API assets, including the number of active API consumers and the frequency of their interactions with your API ecosystem. It's crucial to have strong API adoption rates because APIs have no intrinsic business value if no one is using them.

An API adoption plan needs to be part of any digital transformation strategy. Here are some recommendations to facilitate and accelerate the adoption of your API:

#### Automating and Productizing APIs

- Strong, centralized organization to drive standardization and harmonization across different groups, geographies, and markets - 70-80% should be standardized and the rest should be open for customization
- APIs should be well-designed and ready for production that can be easily reused across processes and customer journeys
- Developing once and reuse many times mindset should guide all design and development decisions





### Developers' Independence while Having Centralized Management

- The onboarding process for developers should be as effortless as possible
- Enabling services and platforms for developers (e.g., SDK, devSecops toolchain, security services, environment management, and cloud platforms) - this will drive easy development and better reuse
- Build robust APIs well and get them running with controls that are compliant but not overly restrictive

### Robust Governance Structure

- Effective governance procedures to assess the need for customization and a constructive conflict between central and local teams
- Engage with the right business stakeholders across the whole API lifecycle
- Complete visibility of priorities, sponsorship, and funding for API projects.

### Evangelizing Your API Platform

- Enterprise needs to sell developers on adoption, make the value proposition clear, provide tools that make the API easy to use and experiment
- Establish your API community and transform API consumers into API evangelists.
- Create your own API marketplace to accelerate digital business initiatives making API adoption easier

### API Discovery, Documentation and Metrics:

- API must be discoverable and available for self-serve
- Developers want your API to have clear and accurate documentation
- Gather both business and technical measurements to evaluate the adoption

## How Can BaaS Enable to Drive Your Business Better?

To summarize, BaaS enables the discipline of reuse and the consumption model, allowing increased efficiency, productivity, and scalability. We see BaaS as a cornerstone of a digital transformation strategy.

The future will belong to the banks that can utilize the banking as a service (BaaS) framework not just for external/partner integrations but also for internal technology transformation. By employing a strategy centered around API-led connectivity and reusability, where access to core systems and composite business processes are available to internal stakeholders, banks will be able to create a platform that drives efficiency for the whole enterprise.

## About The Authors



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Gaurav Garg is a Banking Consultant with Tech Mahindra. Gaurav carries with him 14 years of rich experience in the banking domain. In this role, he is engaged in designing innovative solutions in the digital banking space leveraging internal capabilities as well as partnerships with fintech's. Gaurav has rich experience in consulting, business analysis and product development with deep understanding of technology as well as the domain landscape.

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23+ years of Banking, Financial services and Insurance technology experience focused on enhancing customer experience through simplified processes, digital enablement, Innovation, operational efficiency and advanced analytics. Anchored solutions for various business use cases and operating models. Successfully executed many large & complex initiatives that delivered business value.

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