

# Enhancing banking architecture

A simplified enterprise methodology

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# Navigating the cloud frontier

## Revolutionizing banking through simplified enterprise architecture

In the dynamic world of banking, staying ahead requires a fundamental shift in how financial institutions approach data and technology.

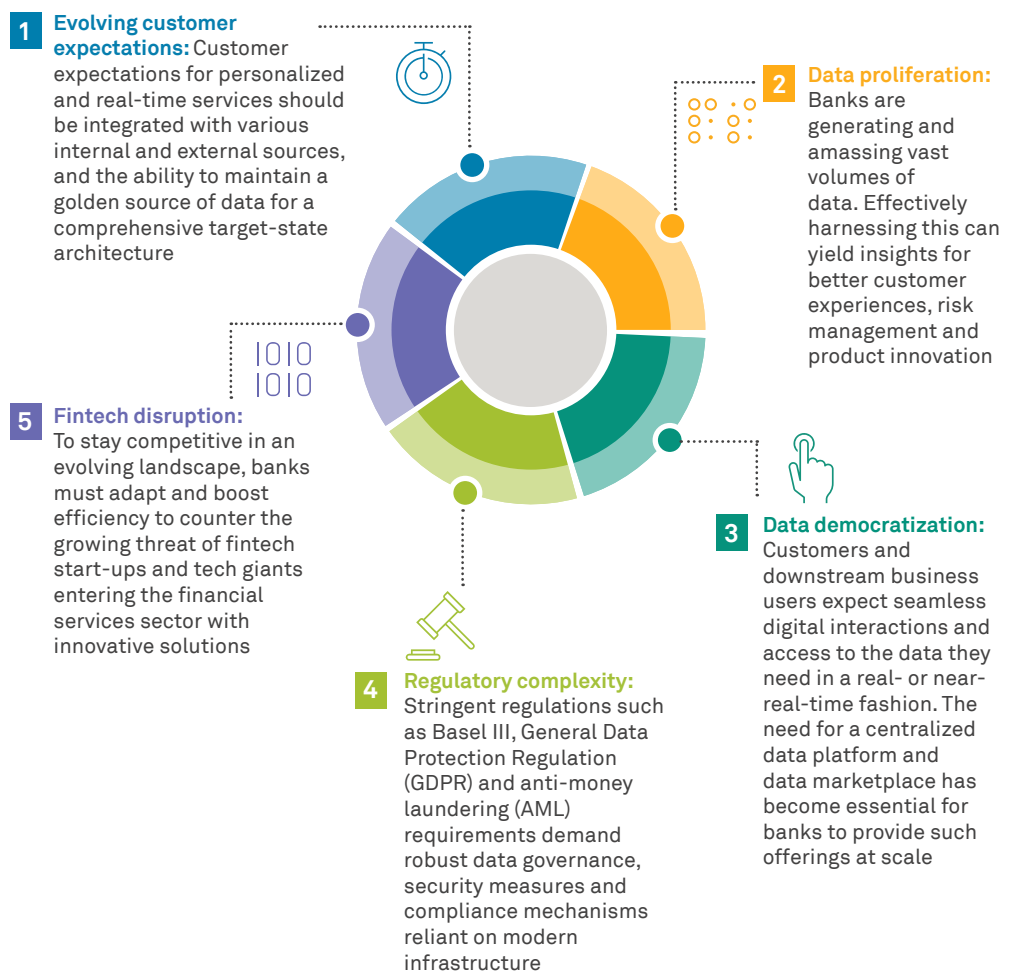
The traditional banking landscape is being reshaped by technological advancements, evolving needs of customer-facing business functions and increasing regulatory complexities.

To address these challenges and seize new opportunities, banks are increasingly turning to modern enterprise architecture transformation with cloud technology at its forefront.

This whitepaper explores the pivotal role of cloud-powered modern enterprise architecture in revolutionizing banking operations, fostering innovation and addressing risk- and compliance-driven requirements, powered by a simplified architecture methodology — CRISIL's approach to simplify and modernize the data landscape.

## The changing banking landscape

The banking industry is undergoing a profound transformation, driven by several key factors requiring investment in modernized architecture. With a modernized architecture and appropriate data strategy, banks will be powered with the right tools to mitigate defensive pressures (i.e., regulatory risk) and increase the democratization of data (i.e., data and product marketplaces).



## Embracing a cloud-powered, modernized architecture

Modern enterprise architecture transformation involves reimagining and reconstructing a bank's architecture foundation from process, data and technology perspectives. Now the question is, why should my bank move to the cloud? While the financial sector has been slow to adopt cloud technology (and letting go of legacy on-premise applications), there has been an uptick in the move toward cloud as banks better understand the advantages and business impact, which include quicker processing times, lower operating costs and improved customer experience — all of which demonstrate significant upgrades over legacy on-premise applications. Once this transformation begins to take shape, banks should ensure the way they implement cloud should be guided by the key principles that harness the power of cloud technology effectively.



### 1. Elastic scalability:

Cloud platforms offer scalable compute resources, allowing financial organizations to efficiently respond to customer demand fluctuations and expand globally with adaptable systems that meet diverse geographical requirements

### 2. Adoption of third-party tools:

A cloud-based infrastructure facilitates adoption and deployment of new third-party tools, allowing organizations to embrace these technologies faster and in a much easier way

### 3. Data-centric approach:

Data becomes a strategic asset as banks leverage cloud-enabled data lakes, real-time analytics and artificial intelligence to glean insights and drive strategic decisions

**4. API-first strategy:** Application programming interfaces (APIs) seamlessly integrate third-party services, encouraging collaboration and opening avenues for new revenue streams

**5. Focus on costs:** Cloud technologies provide cost efficiency and rapid innovation, allowing banks to focus on core competencies rather than managing intricate infrastructure

## Benefits of cloud-powered modern enterprise architecture in banking

Cloud-based architecture can revolutionize both customer and regulatory compliance-driven business processes by leading with innovation. When considering the cost-benefit analysis of cloud versus current on-prem architecture, it is always important to maintain a customer-centric approach and enhancing existing services for your customer should be the primary reason to move to cloud. It is also important to note that customer needs and expectations from their financial institutions are constantly evolving – self-service tools, personalized digital experience and AI-powered customized investment strategy are just a few examples, all of which require sophisticated infrastructure and large amounts of high-quality and integrated data. Led by elevated customer experience, some additional cloud benefits for banks include:



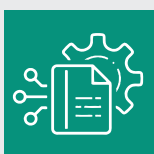
### Elevated customer experiences:

Delivering personalized experiences, offering tailored product recommendations and providing secure, user-friendly digital channels



### Innovation catalyst:

Swiftly conceptualizing, developing and launching novel data products and features by capitalizing on cutting-edge technologies such as artificial intelligence-driven chatbots, and biometric authentication



**Operational efficiency:** Streamlining processes, increasing automation and leveraging data-driven insights reduce operational inefficiencies, leading to cost savings and optimized resource utilization



### Risk management and compliance:

Enabling real-time monitoring, fraud detection and seamless regulatory reporting, ensuring adherence to evolving regulations



**Ecosystem collaboration:** Fostering collaboration with fintech partners, competitors and other stakeholders via APIs, and creating a thriving banking ecosystem that benefits customers and the industry

## Implementing cloud-powered modern architecture transformation through a simplified architecture methodology

For a successful enterprise architecture transformation, banks should consider utilizing a simplified architecture framework to streamline and modernize the business. This framework focuses on integrating three key pillars — business processes, data and technology.

While modernizing these pillars separately can yield success, it is crucial to not underestimate the power of integrating them. Harmonization of business goals with data and technology strategy will lead to more effective architecture solutioning and innovative outcomes.

Finally, as part of any enterprise architecture transformation, the other key component to defining the ideal target-state is to align the right tools for execution with your harmonized strategy.

With your business goals, data and technology strategy and tooling aligned, you now have a comprehensive cloud architecture strategy to achieve and accelerate business modernization efforts.

*Let us explore how to tactically solve some challenges across the three pillars of a simplified architecture framework:*

**Business processes:** The regular challenges that banks face related to their business architecture include a lack of common understanding or ontology development, heavily manual processes and high complexity of activities with minimal automation.

The simplified architecture approach is to standardize business activities by defining taxonomies, processes and functions required to meet the organization or specific business area objectives.

The first step is to review and define enterprise taxonomies within the current state. These taxonomies may include process, function, risk, product, or legal entity, among others. Some may also want to establish organizational-level view (i.e., top of the house) as part of this exercise, as this establishes a centralized standard or template for use-case, or business-driven taxonomy standardization.

Process optimization tools such as IBM Business Automation, SAP Signavio, and Celonis may be

considered to help accelerate this step (in conjunction with business strategy).

Through this exercise, most organizations notice the strong connection to data-dependent processes and assets being used throughout their business activities.

**Data architecture and governance:** The common pitfalls of data architecture forcing the need for modernization include poor data quality and governance, unclear data dependencies, siloed data and lack of a common data taxonomy.

The simplified architecture approach for this is to define the models and platforms that govern how the data is collected, stored, controlled and consumed.

This is done through a few steps, including defining the data taxonomy, identifying the data concepts for each business process and/or function and then mapping these data concepts to the current state data stores, creating an accurate view of the data linkage to the business and system architecture.

Depending on what the needs of the business are, different tools may help with different requirements in this component of the exercise. Using graph technology tools such as Neo4J helps significantly with downstream uses such as improved risk management, enhanced customer profiling, better financial products and increased data sharing. Additional data integration and governance tools such as Collibra, Snowflake, and Databricks help solve many of the other data related challenges present in banking.

**Systems and technology infrastructure:** The familiar pitfalls for system architecture include lack of agility or scalability in handling complex business activities and the data associated with them — on-premise, data warehouses and applications, manual end-user computing tools, and the cost of storage, compute and application maintenance. Misaligned technology stacks hamper business growth, limit data handling for better customer service and slow down adaptability to change, amongst other challenges.

Using simplified architecture as a guide, banks should map out current state architecture and technology application taxonomies, map applications and issues to business processes and conduct architecture assessments.

Tools such as Ardoq, MuleSoft, Enterprise Architect, IBM Business Automation may help with modernizing your tech stack and be included as components to a broader cloud ecosystem.

**Modernizing the business:** Once the current state is evaluated and the target state is comprehensively defined (taxonomies, processes, assets and data), banks will have adequate information to identify areas for rationalization and enhancement.

This ultimately helps define and design an effective target-state architecture strategy and roadmap that aligns business vision with the latest innovative tools and technologies (i.e., cloud and AI), creating a truly modernized and simplified business.

As a global bank, this could mean automating trade operations or improving liquidity forecasting in finance, more easily segmenting and providing 360-degree customer views in the retail division, or improving compliance by meeting operational risk requirements for the risk management function.



## Conclusion

In an era characterized by enterprise transformation, modern cloud driven architecture is not just a choice, it is a strategic imperative for banks seeking to maintain their relevance and competitiveness.

By embracing a cloud-powered, agile and scalable approach leveraging a simplified architecture methodology, banks can enhance business efficiency, accelerate innovation and growth and improve compliance.

As the banking landscape continues to evolve, those who embark on this journey of transformation will be best positioned to thrive in the new era of banking.

Cloud-powered modern enterprise architecture is the compass guiding banks toward a future of unprecedented possibilities.

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