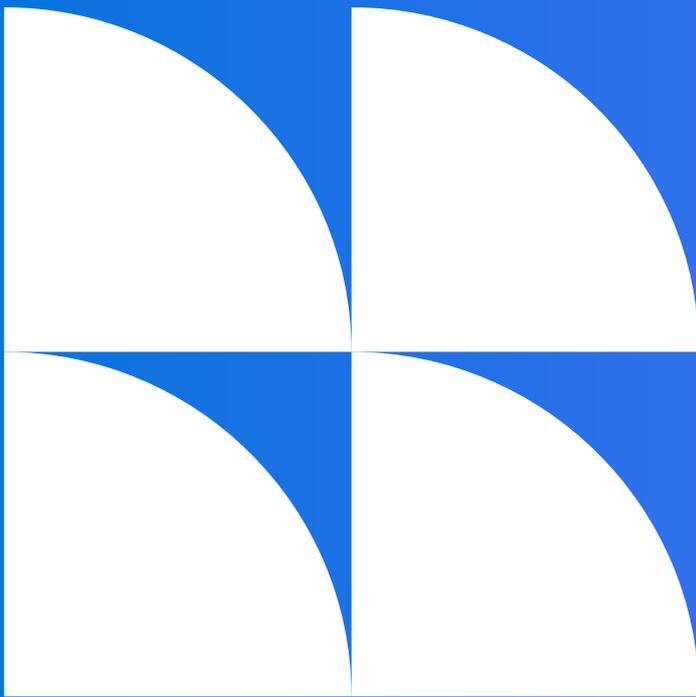




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# Connecting real-time systems for improved banking experiences



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## Contents page

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**The real-time edge** 01

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**Data foundation** 02

Continuous streaming

Data enrichment

Flexibility

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**Actionable insights** 03

Account balance deviations

Transaction experience

Personalised messaging

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**Summary** 04

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# The real-time edge

In the current technological landscape, real-time data has become an expectation for end users, especially in the financial domain. Any slowness or outages can severely impact organisations, with users easily choosing other products and services if they are not happy with what they are currently experiencing. Some organisations continue to run legacy batch-based processes, which impact service delivery and could be vastly improved by today's standards.

Offering products and services in a real-time manner provides a range of benefits.

## Improved user experience

By analysing user data in real time, feedback can be provided to users to improve their experience. This could include providing personalised recommendations on other products and services that the user may be interested in, which could, in turn, drive further engagement and sales—for example, recommending a loan to a customer who needs short-term credit due to their deposit account balance being constantly low recently. Businesses can have the same issue and be offered a line of credit to help them through a challenging period.

## Competitive advantage

Organisations leveraging real-time data analytics can gain a significant edge over their competitors. By responding quickly to changing market conditions and customer demands, they can develop innovative products and services and capture new market opportunities.

As seen with the Buy-Now-Pay-Later (BNPL) boom during COVID-19, organisations scrambled to provide this product to satisfy demand. Those with more modern real-time systems can take first-mover advantage.

## Faster decision-making

With real-time data, users can analyse information as it happens, allowing them to react to situations and make choices much quicker. This is crucial in fields like finance, where market fluctuations occur in seconds. Making decisions quickly, such as whether someone is a good customer and entitled to more credit, benefits both the organisation and the customer.

## Better risk management

By having a real-time view of potential risks, businesses can take proactive measures to mitigate them. This is important in industries like finance, where even small disruptions can have significant consequences. For example, a bank can use real-time transaction data to identify and prevent fraudulent activity on credit card transactions or money transfers. Catching them in real time is crucial for limiting damage and reducing the impact on business.

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## Data foundation

### Enhanced operational efficiency

Real-time data enables businesses to identify and address inefficiencies or potential problems as they arise

The rise of cloud computing and powerful analytic tools has made processing real-time data faster and more affordable. This allows organisations of all sizes to leverage real-time data for the benefits mentioned, which have been difficult to solve with legacy on-premise systems.

By using solutions like Thought Machine's Vault Core combined with Google Cloud's Customer Insights Engine (CIE), which leverages BigQuery and VertexAI, financial organisations can deliver world-class financial products and services via a best-of-breed core banking solution

The heart of any real-time core banking system needs to be built to make it easy for other systems to access data instantly. Providing data in a rich and quality manner is paramount, as the expression "garbage in, garbage out" holds true. This data can drive improved user experience, gain competitive advantage, enable faster decisions, manage risk, and enhance operational efficiency.

Thought Machine's Vault Core meets such requirements through its modern cloud-native microservices design, providing real-time financial information about accounts, transactions, and balances.

### Continuous streaming

What data other systems will need can vary, so it's important for any core banking system to provide all possible events. This must be done in an organised way so systems can consume only what they need without burdening them with redundant data. For example, a general ledger system may only want to consume the latest balances from accounts without needing transaction data. Alternatively, a rewards system may wish to track account openings for a given customer and product to provide air mile rewards.

### Data enrichment

To drive actionable insights requires sufficient metadata to be able to make decisions, and to facilitate this, any system must be able to provide the ability to enrich data entities as needed. For example, metadata can be added to provide enough information about a transaction on an account, such as the type of transaction being done and the location where it took place. Customers and their accounts can also be enriched with metadata, such as where the new customer was sourced from or whether the account was opened during a promotional period.

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## Actionable insights

### Flexibility

With real-time data comes the benefit of allowing continuous monitoring of key performance indicators (KPIs) across an organisation. This enables businesses to identify and address inefficiencies or potential problems as they arise, such as slow account openings or transactions that directly impact the customer experience.

To drive any actionable insights based on any real-time data requires having a general-purpose backend for data storage with the ability to create focused data sets based on business needs while preserving data consistency. This generality of the backend also minimises the risk and cost of switching technology later down the line, as it can cater to any reasonable customer data requirement. Compared to managing multiple customer data stores across different systems, having a single store replaces the cumbersome ETL process with a smooth ETL flow to build a consistent Customer360 view empowered by actionable AI insights.

Google Cloud's Customer Insights Engine (CIE), which leverages BigQuery and VertexAI, can meet these objectives by aggregating all data about each customer into a single platform. These datasets, such as payments and money transfers, KYC information, credit servicing, and digital and offline interactions, can be stitched together and augmented to provide valuable insights. With embedded access controls and consent management, CIE helps financial organisations to quickly and safely query data to create personalised, unified and comprehensive views of customers. Organisations which combine internal and external capabilities leveraging CIE can improve their understanding of their customers' behaviours and preferences and eventually elevate the quality of interactions across multiple channels and provide real-time valuable insights that can be used for non-intrusive financial crime prevention, reporting, personalised marketing campaigns, customer segmentation, ROI tracking and more.

Below are some use cases commonly implemented by financial institutions and how combining Google's Big Query with Thought Machine's Vault Core can empower the CIE with various capabilities for banks, insurers, payment providers, asset managers, and fintechs.

### Account balance deviations

A sharp drop or increase in a customer's account balance could be a source of interest and require some action. For example, a significant drop could indicate fraudulent transactions, especially if they originate from foreign locations, with an automated process invoked to freeze an account while further investigation occurs. Alternatively, a significant increase in account balance might signal an opportunity for a relationship manager to facilitate an upsell or cross-sell discussion.

A confirmed trend (or trend reversal) in an account's balance tends to indicate a churn of customers. A relationship manager could be alerted in advance and be able to intervene with churn prevention activities, especially while the customer is still with the bank and open to communication.

## Transaction experience

Monitoring failed transactions initiated on digital channels or concerns raised by customers, for example, during interactions with chatbots or call centre operators, could be another potential trigger. A relationship manager or customer service officer can be alerted in real time about such incidents and proactively reach out to the customer to mitigate the incident, thus providing a personalised, timely customer experience.

## Personalised messaging

Existing cross-sell and upsell models can be complemented by creating personalised messages and explaining a value proposition from a product offered as a function of customer context. For example, consulting a customer on how many additional travel points they might have received if they had used a credit card currently offered by the bank. Such a message would presumably resonate more strongly with the customer's needs than a generic message about credit card features.

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## Summary

Real-time data is essential for modern businesses, especially in finance. By harnessing the power of real-time analytics, financial organisations can significantly improve customer experiences, make faster, data-driven decisions, and gain a competitive edge.

Advanced technologies like cloud computing and AI have made it possible to efficiently process and analyse vast amounts of data, enabling businesses to uncover valuable insights and optimise operations.

Explore the transformative potential of real-time data in finance and discover how solutions like Thought Machine's Vault Core combined with Google Cloud's Customer Insights Engine can elevate your financial offerings. Contact us today to learn more about implementing a best-of-breed core banking solution.



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