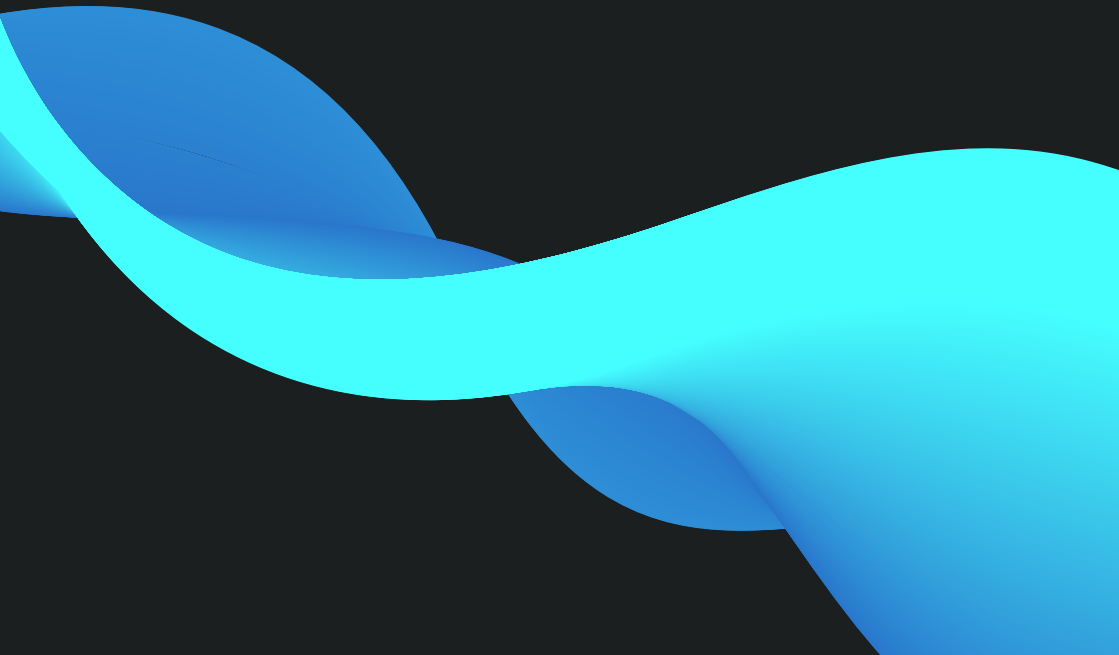# Thought Machine

Vault Core

The foundations of
modern banking

Overview

Vault Core is our cloud-native core banking platform designed from scratch to give our clients total choice, flexibility and power. Vault Core can run, create, and migrate any product a bank wishes in its Universal Product Engine, giving our clients the freedom to control and shape their strategy as they see fit. The platform features an always-on Ledger where all data is transmitted in and out in real time, providing rich data streaming for AI and reporting.

The Vault platform

The Vault platform comprises Vault Core and Vault Payments: the foundational technologies in a bank's stack. These two products have been designed entirely in house, without any legacy code, and can run any product or payment set. Vault Core and Vault Payments are highly configurable by and can be hosted in any cloud configuration.

Our technology has become the de facto option for large-scale banks undertaking core and payments transformation.

No other core banking vendor has signed as many clients in this segment.
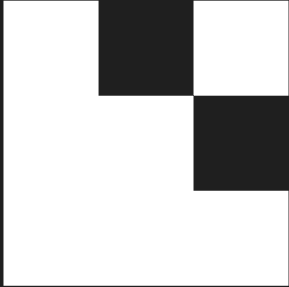
" Thought Machine's Tier 1 customers now include JPMorgan Chase, Morgan Stanley, Lloyds Banking Group and Intesa Sanpaolo.

With the small and medium-sized banks sitting between these extremes also increasingly willing to adopt SaaS solutions, we believe the industry is now at a tipping point, whereby most banks will be considering native cloud software in future projects „

Vault Core use cases

Vault Core serves a wide range of retail and commercial banking use cases. It is now live and in production with Tier 1 multinational banks, Tier 2-5 smaller regional banks, and digital challengers worldwide. Vault Core is also being deployed by commercial banks, mortgage providers and SME lenders, among other segments.

Vault Core's Universal Product Engine allows clients to create any new financial product, or exactly replicate back book products, using smart contracts. Smart contracts within the Universal Product Engine define financial products as code, which our clients can create and modify without reliance upon us as the vendor.

A selection of our clients

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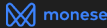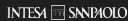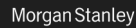
The benefits

Configurability

High levels of configurability in Vault Core allow clients to build, launch and manage any financial product.

Single platform

Unparalleled product configurability and personalisation in the configuration layer of the product. Our clients share a common platform layer which we regularly upgrade.

API first

APIs expose all functionality within Vault Core. The platform's synchronous and asynchronous APIs connect seamlessly with other best-in-class fintech solutions.

Real time

Vault Core operates in real time, with no batch processing. Its Ledger is always available and accessible, streaming out rich data via APIs.

Universal

Vault Core can run any type and size of bank on a single platform. It supports any deployment type by a bank on any cloud provider.

Universal Cloud Hosting

Vault Core is cloud native and cloud agnostic. It supports any deployment type on any cloud provider, giving our clients total flexibility to choose the hosting option and provider that best meets their needs.

Our fully managed SaaS deployment of the Vault platform removes the administration overheads associated with managing cloud infrastructure. Vault Core also supports hybrid cloud deployments — allowing sensitive bank data to remain within a private cloud while the rest of the platform is hosted on a public cloud.
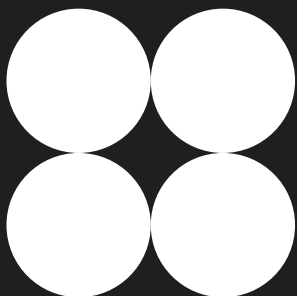
" Vault Core's unique features such as its smart contract system for products, enables Atom to develop a bank which transmits its vision and values through the business and into the hands of our customers "

Mark Mullen, CEO, Atom bank

Architecture

Software design

Vault Core's cutting-edge design provides our clients with high configurability, scalability and availability, enabling them to remain competitive and flourish into the future.

Vault Core's microservices-based architecture enables increased resilience, horizontal scaling and more efficient product development. Our API-first architecture ensures that clients can easily connect to other technologies in the fintech ecosystem.

Real-time Ledger

The platform's real-time Ledger is a centralised, single source of truth. The Ledger can manage sophisticated lines of funds in any asset and denomination, and our clients can manage anything from international currencies to crypto and reward points.

All data is transmitted in and out of the Ledger in real time, providing rich data streaming for AI and reporting.
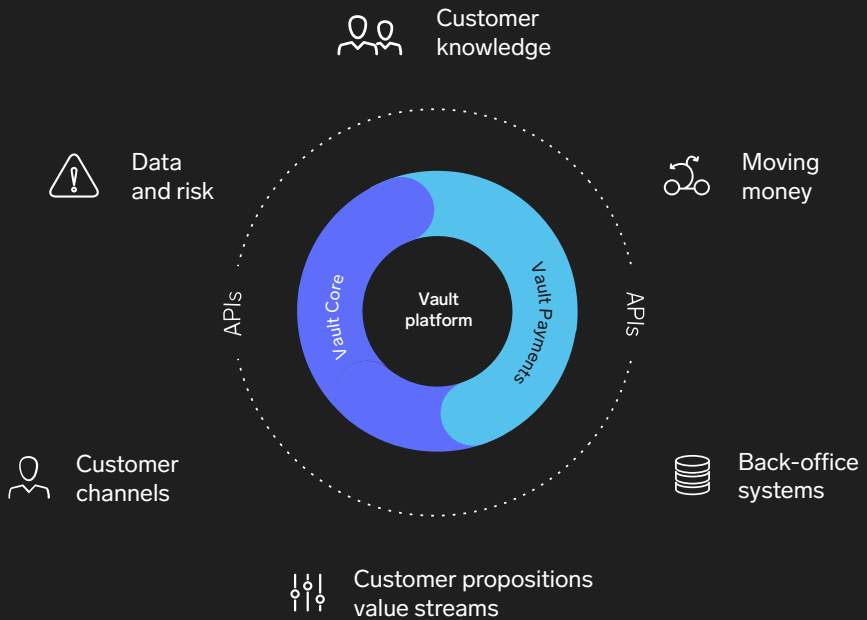
Universal Product Engine

Clients can build, launch and manage any financial product using smart contracts in Vault Core's Universal Product Engine. No platform code is modified, and our clients have no reliance on us for changes.

We have incorporated best-in-class open-source technologies such as Kubernetes, Istio and Kafka to strengthen the product's capabilities.
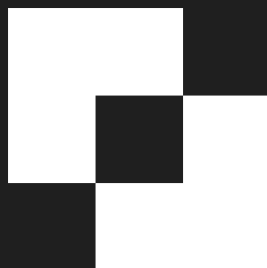
Vault Core is fully API-enabled, allowing our clients to plug into best-in-class technologies from the fintech ecosystem and build their complete bank. All data is available within Vault Core in real time for downstream systems to use for reporting, analysis, and more.

Customer knowledge

Data and risk

Moving money

APIs

Vault Core

Vault platform

Vault Payments

APIs

Customer channels

Back-office systems

Customer propositions value streams

Accelerating the bank build

Product Library

Vault Core comes with the full array of financial products already built. These include market-standard products such as current accounts, deposits, loans, mortgages, and credit cards. Vault Core also supports Islamic banking and more innovative products such as buy-now-pay-later, wallets, rewards, offset mortgages, and more. There are no product or feature limitations.

Vault Core is shipped with more than 200 base smart contracts in our extensive Product Library. Clients can launch these products immediately or tailor them according to specific needs.

Integration Library

Clients have access to our Integration Library of connections to other leading technology vendors across the entire banking stack.

The Integration Library is a set of fully documented, fully validated solutions to build out a best-of-breed bank. Each integration is carefully selected by our team and can be adapted by our clients, or partners, as required.

APIs and integration

The Vault platform uses an API-driven architecture allowing clients to build any stack they want. Clients can integrate with existing sources of truth and other leading technology vendors. Real-time data is also published across all components, giving our clients full visibility and instant access to valuable customer and system data.

" Vault Core is the foundational platform for us to build and grow the first of Singapore's new wave of digital banks. We look forward to building on our joint success and delivering even greater levels of customer experience and innovation „

Rajay Rai, CIO, Trust Bank

Thought Machine

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