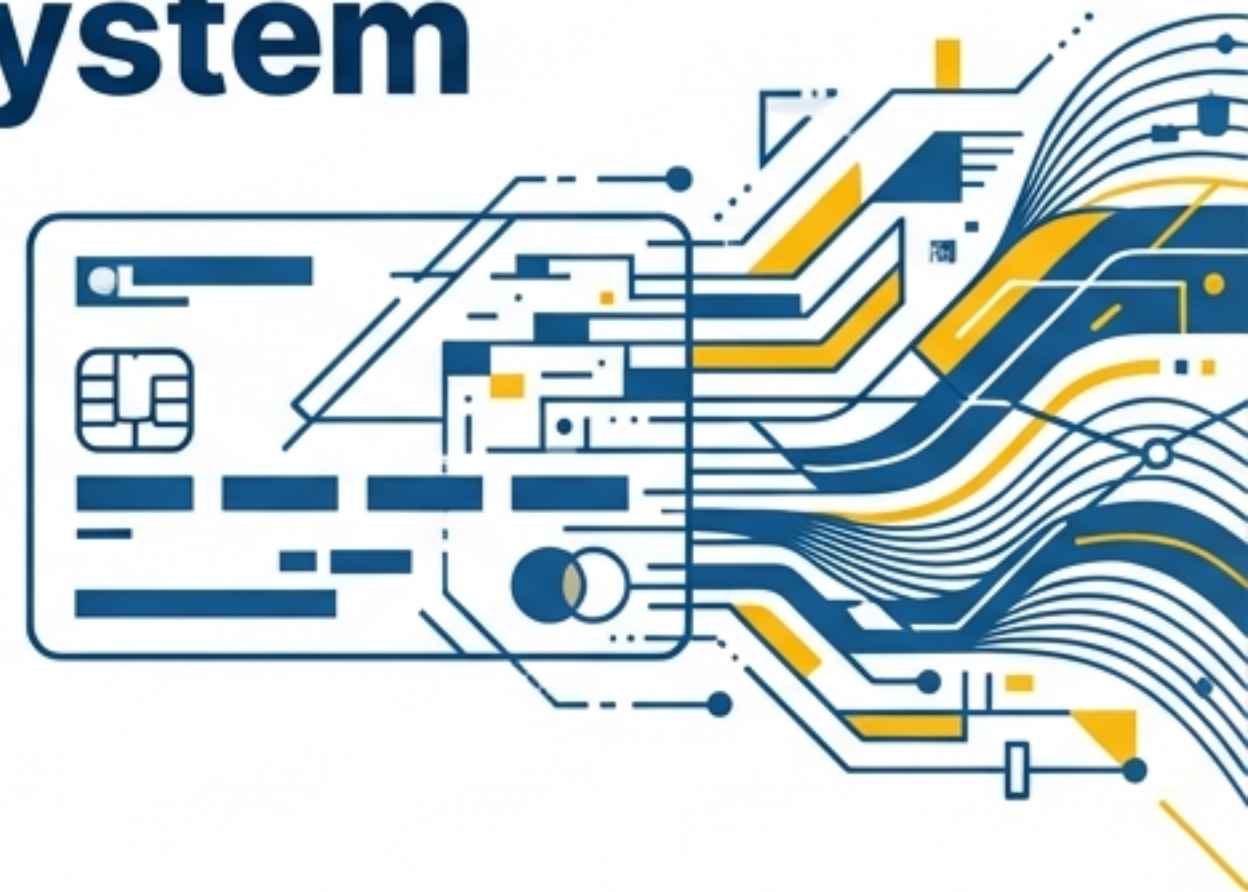




OpenCMS: Next-Generation Card Management System

A Modular, PCI DSS-Compliant Architecture
for End-to-End Card Lifecycle Management



A Centralised Platform for the Future of Payments

OpenCMS is a modular platform designed for financial institutions to launch and manage Debit, Credit, and Prepaid products. Built on international security standards, it enables banks to scale operations while maintaining rigorous compliance.

1. Foundation (Security & Core)

Operating in a PCI DSS-certified environment with a robust Product Configuration Factory.



2. Engine (Operations)

Automated lifecycle management from bulk issuance to real-time transaction monitoring.



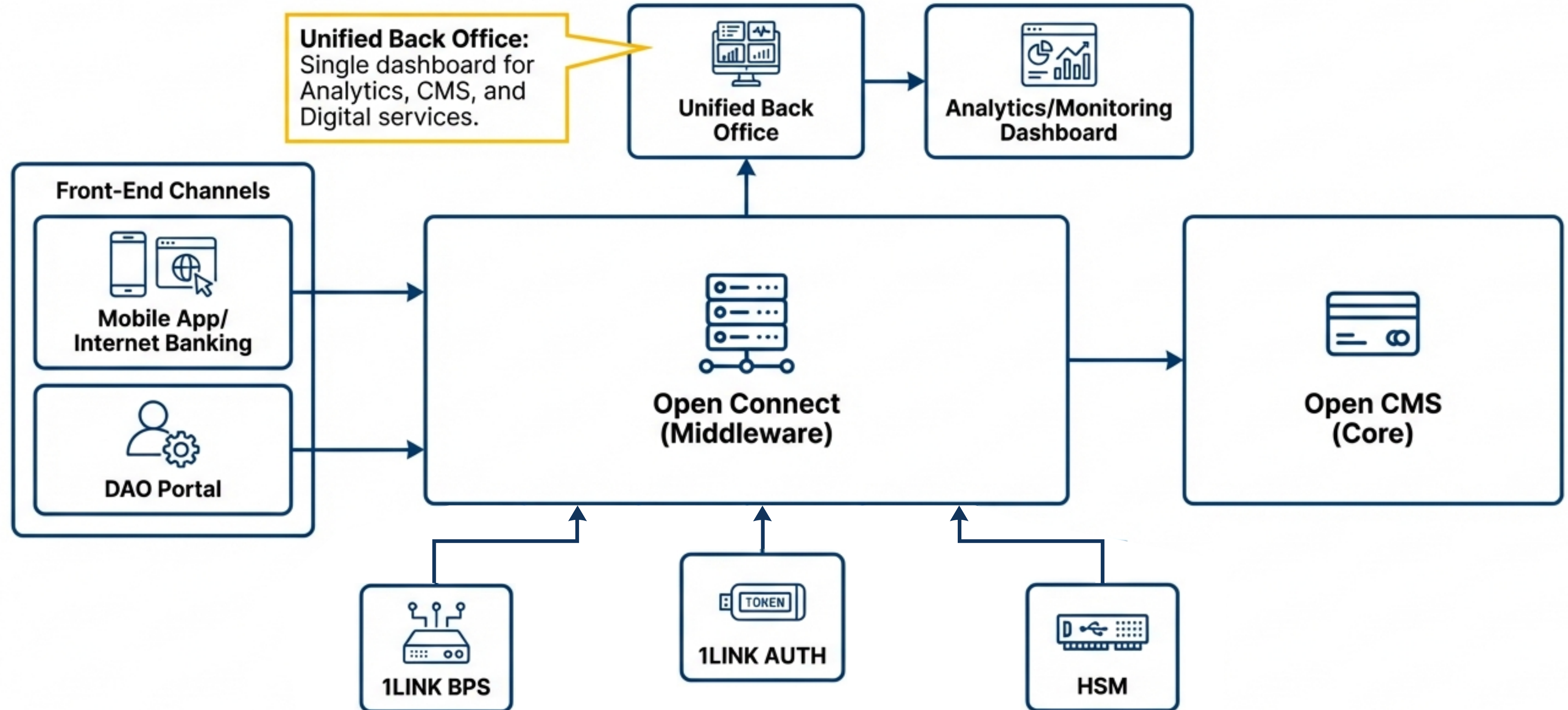
3. Connections (Ecosystem)

Seamless integration via Open Connect to national switches (1LINK, RAAST) and global schemes.



Key Outcome: Empowering institutions to move from legacy silos to a unified, API-first card ecosystem.

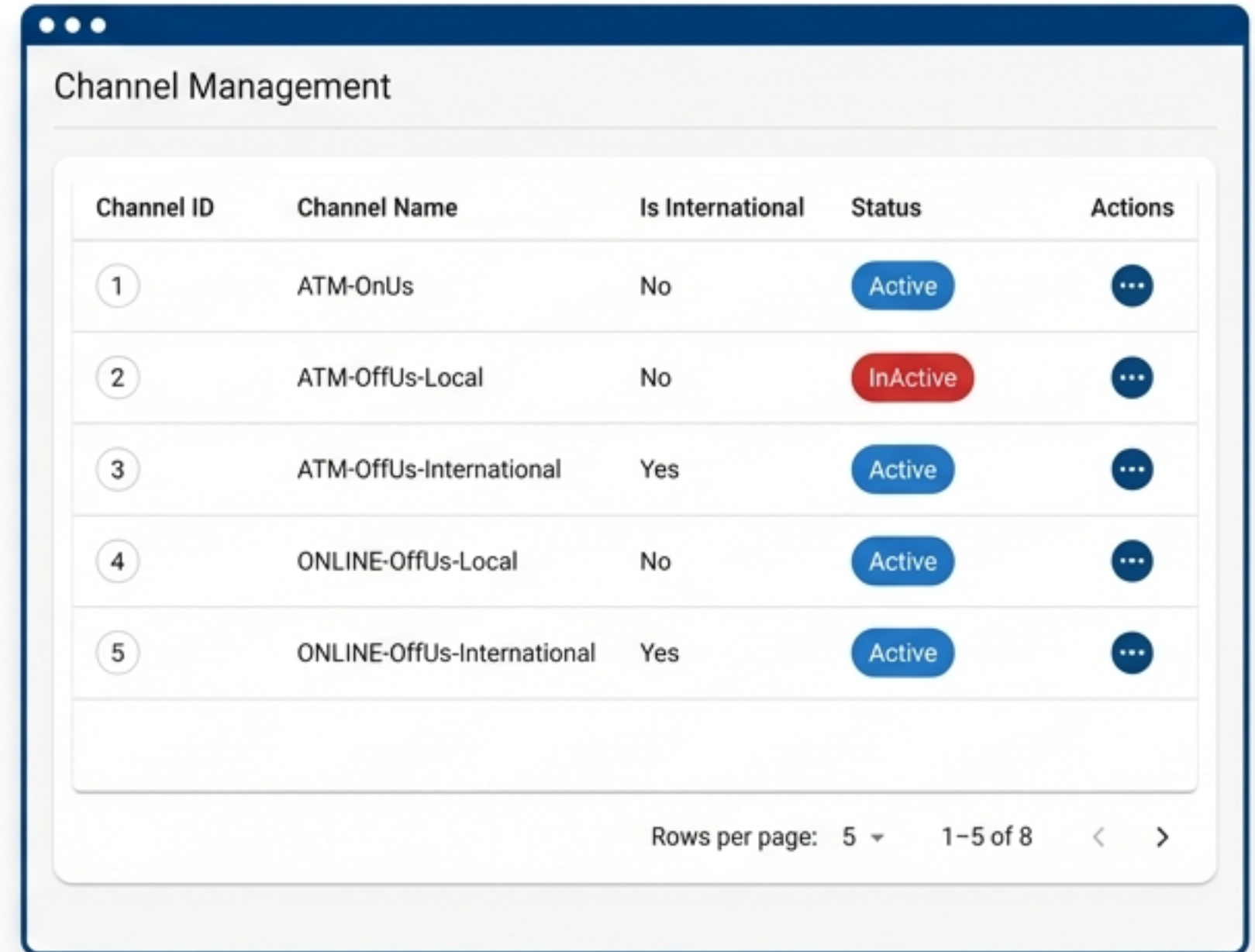
Solution Architecture & Ecosystem



The Foundation: Product Configuration Factory

Defining products by strict operational parameters before issuance.

- **BIN Management:** Link products to unique BIN ranges or specific prefixes for scheme association (e.g., PayPak, UnionPay).
- **KYC Tiering:** Enforce regulatory compliance by linking products to KYC levels (e.g., Basic vs. Enhanced). Mismatched KYC blocks issuance automatically.
- **Channel Control:** Granular toggles to set operational status (Active/Inactive) for specific channels like ATM, POS, and E-commerce.



Channel Management

Channel ID	Channel Name	Is International	Status	Actions
1	ATM-OnUs	No	Active	...
2	ATM-OffUs-Local	No	InActive	...
3	ATM-OffUs-International	Yes	Active	...
4	ONLINE-OffUs-Local	No	Active	...
5	ONLINE-OffUs-International	Yes	Active	...

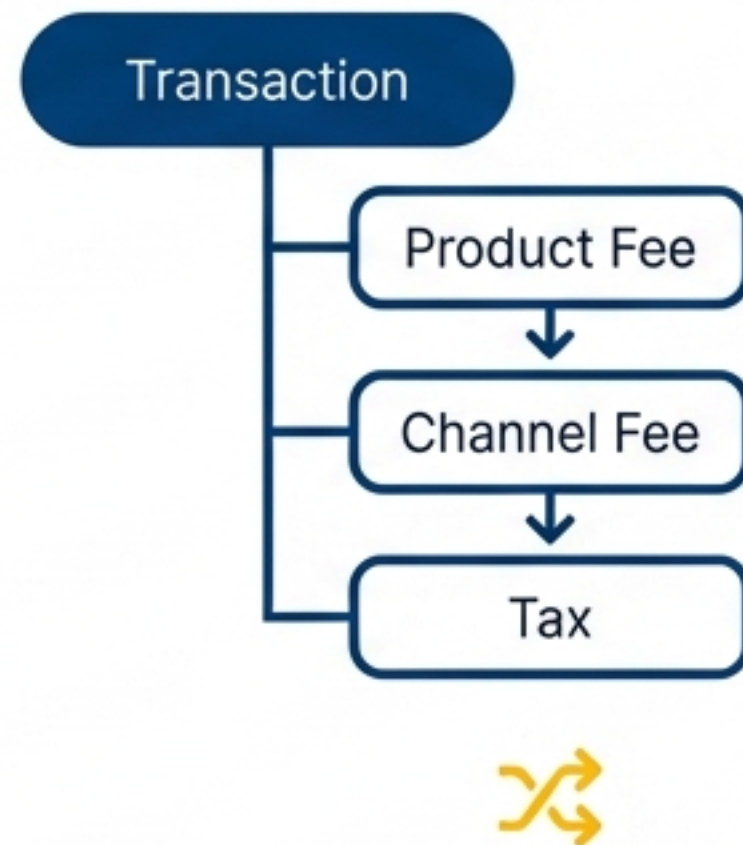
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Financial Engineering: Fee & Limit Management

The Fee Engine

Support for Fixed, Percentage-based, and Slab-based charges.

- **Scope Application:** Apply fees at Product, Channel, or Transaction levels.
- **Fee Types:** Logic for Issuance, Renewal, Replacement, and Transaction fees.



Transaction Limits

Granular control over "On-Us" vs "Off-Us" channels.

- **Cycle-Based Logic:** Cumulative limits based on Channels
- **Frequency Caps:** Restrict the number of allowed transactions per cycle.



Advanced Risk Control: Blocking & Restrictions

Proactive fraud mitigation and regulatory compliance at the product level.

Geographic Control (ISO 3166-1)

Real-time Country Blocking using standard **ISO 3166-1 alpha-2 codes**. Crucial for FATF compliance.



Merchant Control (MCC Blocking)

Block specific transaction types based on ISO 18245 Merchant Category Codes (e.g., gambling, crypto).



Retail
(5311)



Gambling
(7995)

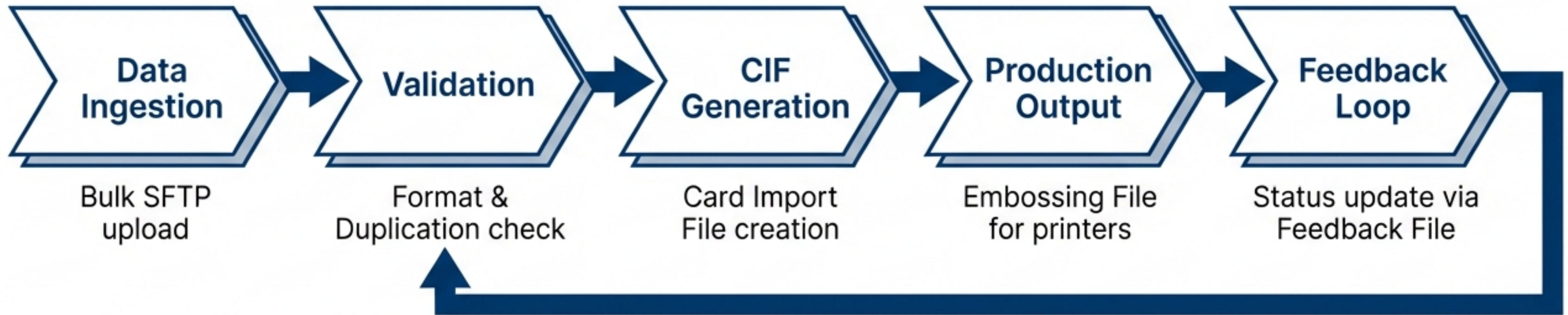


Crypto
(6051)



Dining
(5812)

The Engine: Bulk Issuance & Production



Governance Note

All bulk batches are subject to a Maker-Checker approval workflow before processing.

Operational Excellence: CRM & Support

Empowering support staff with a 360-degree customer view.

Real-Time Actions

Instantly Activate, Temporarily Block, or Hotlist (Permanent Block) cards.

Limit Adjustments

Modify transaction limits on the fly based on customer requests.

Auditability

Every agent action is logged with User ID and Timestamp for compliance.

Customer Name: John Doe

Linked Cards List

- Visa Ending 1234
- Mastercard Ending 5678

Status

● Active

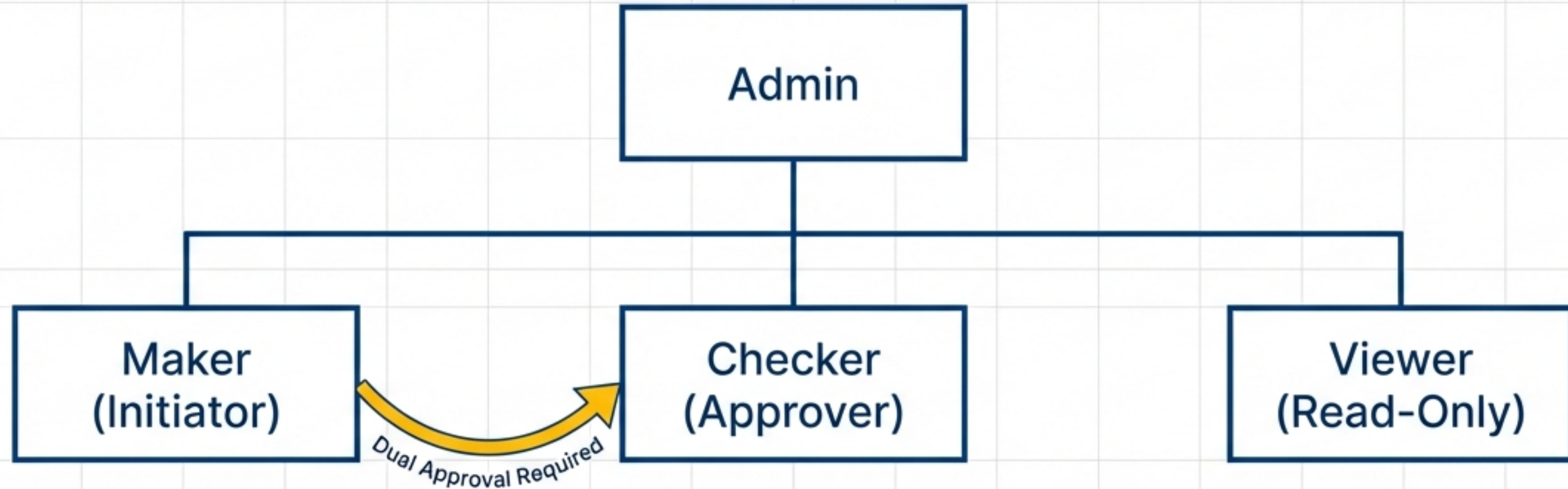
Activate

Temp Block

Hotlist

Governance & Security: User Management

Enforcing Segregation of Duties through RBAC.



RBAC

Granular permissions ensuring users only access what they need.

Lifecycle Management

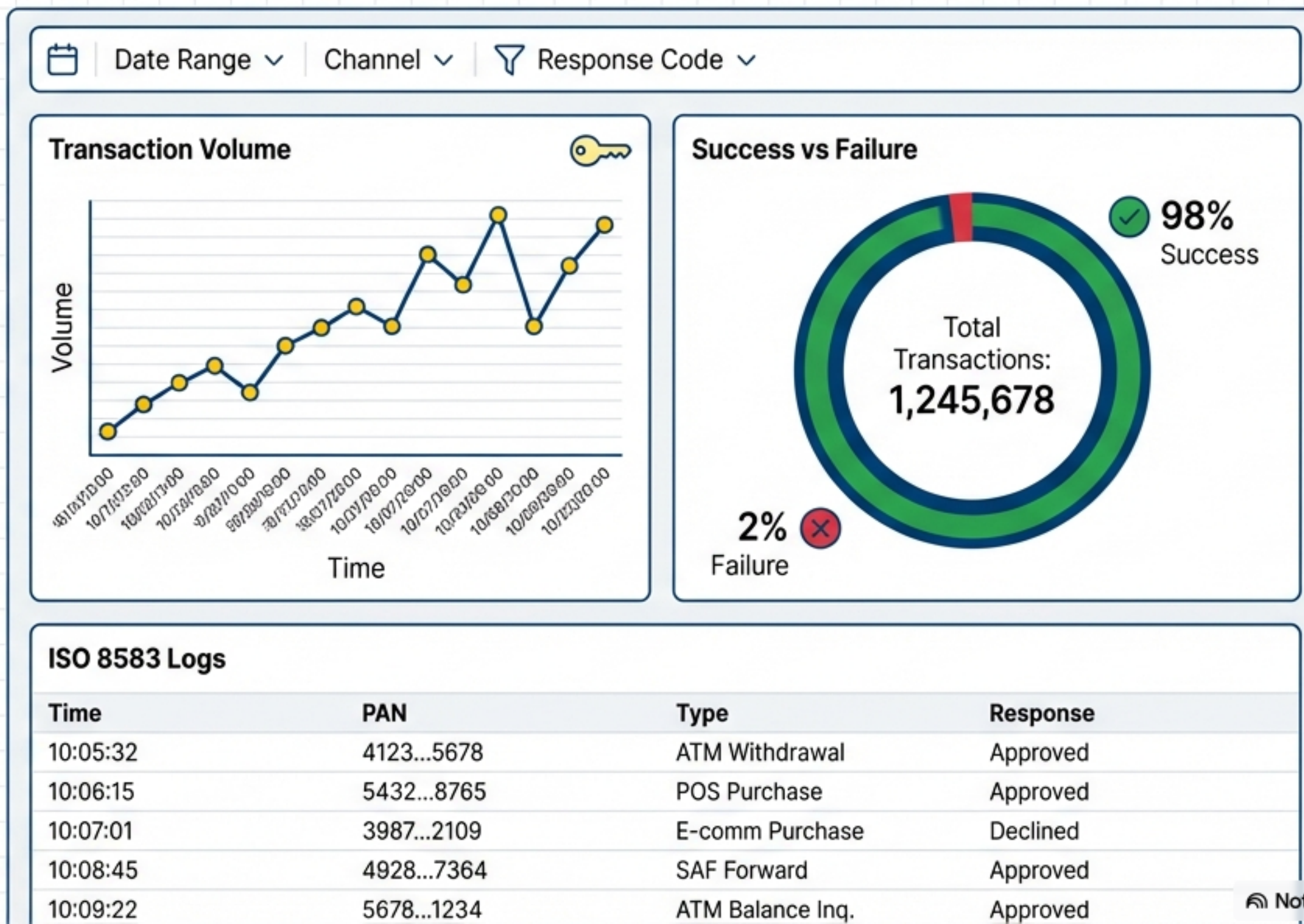
Strict workflows for User Creation, Approval, and Deactivation.

Audit Logs

Detailed tracking of login attempts, session activities, and administrative actions.

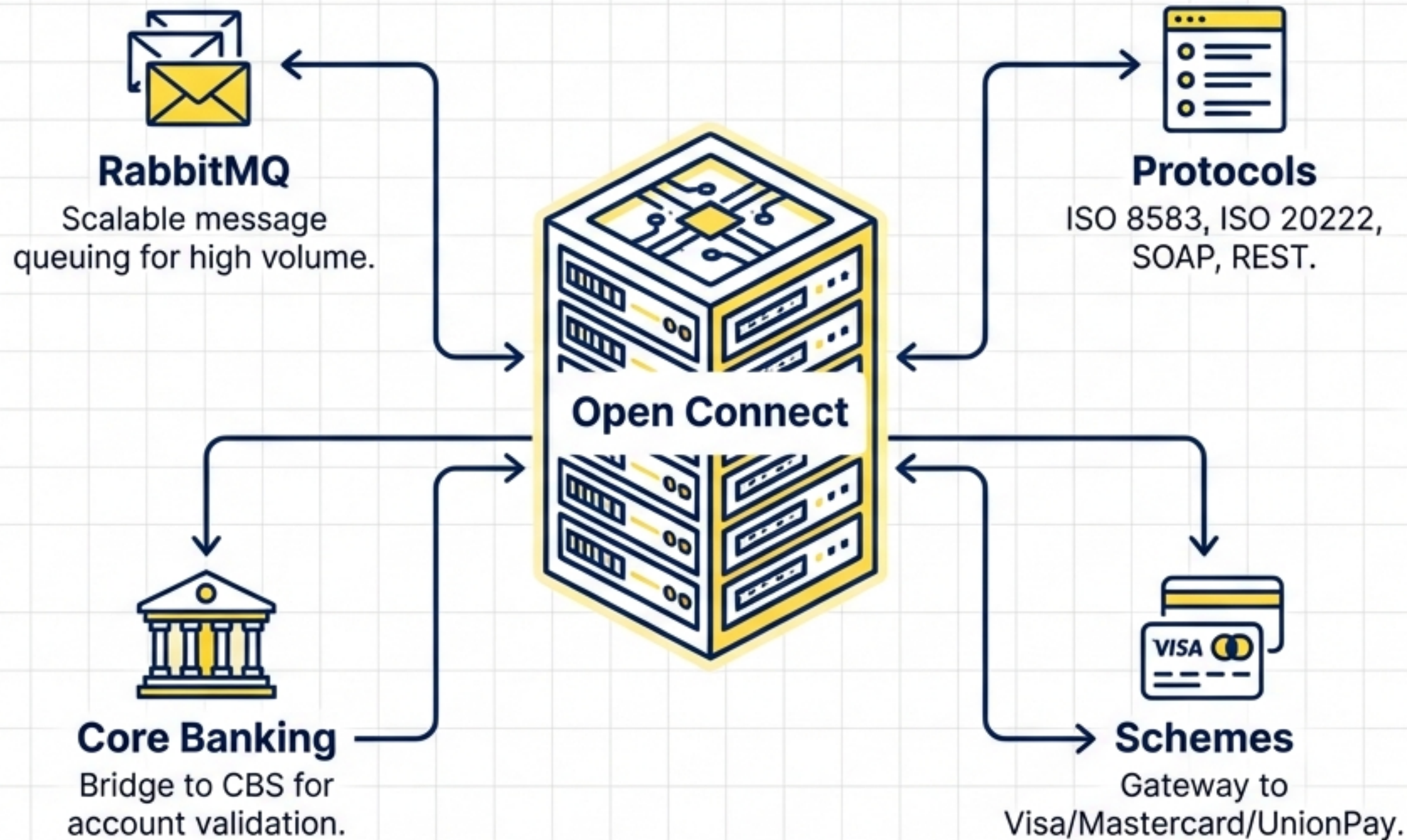
Operational Intelligence: Monitoring & Dashboards

- **Live Monitoring:** View Real-time and Store-and-Forward (SAF) transactions.
- **ISO Integration:** Detailed visibility into ISO 8583 message logs for reconciliation.
- **Analytics:** Track success rates across ATM, POS, and E-commerce.



The Nervous System: Open Connect Integration Hub

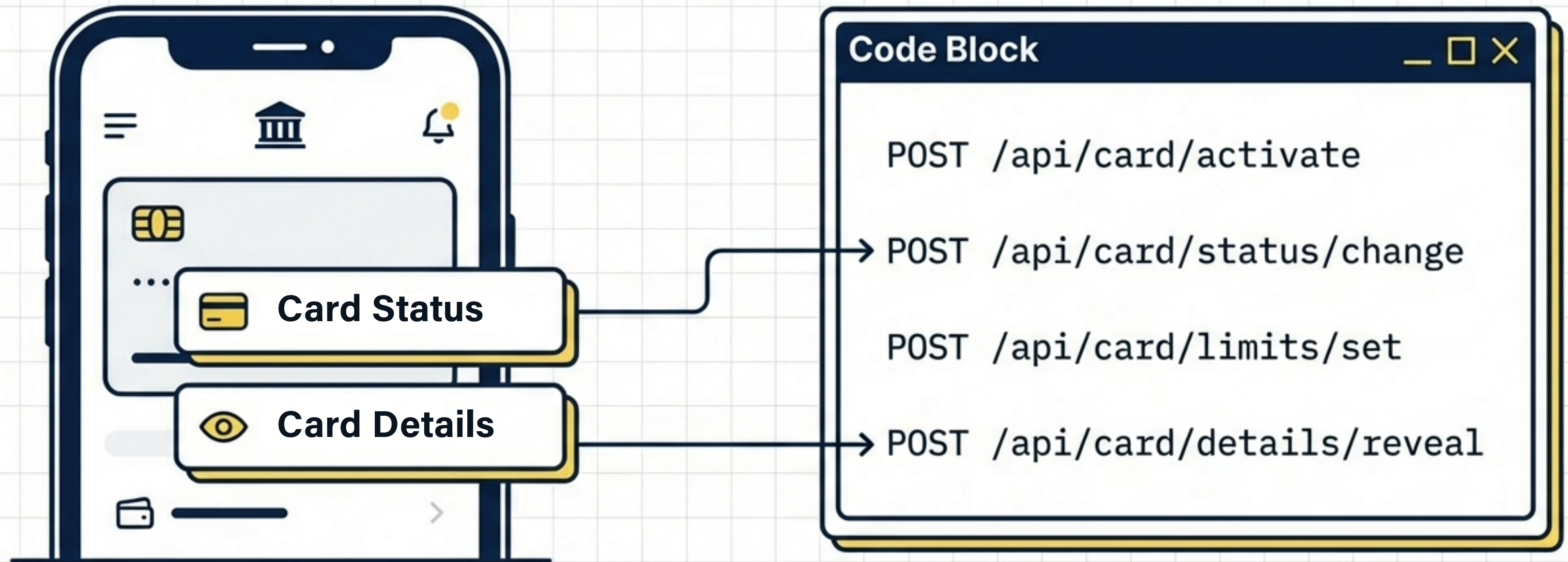
A High-Throughput, SOA-Based Switching Engine.



Open Connect acts as the intelligent bridge between the Core Banking System, the Card Management System, and external payment schemes, ensuring real-time interoperability.

The Digital Layer: Unified API Suite

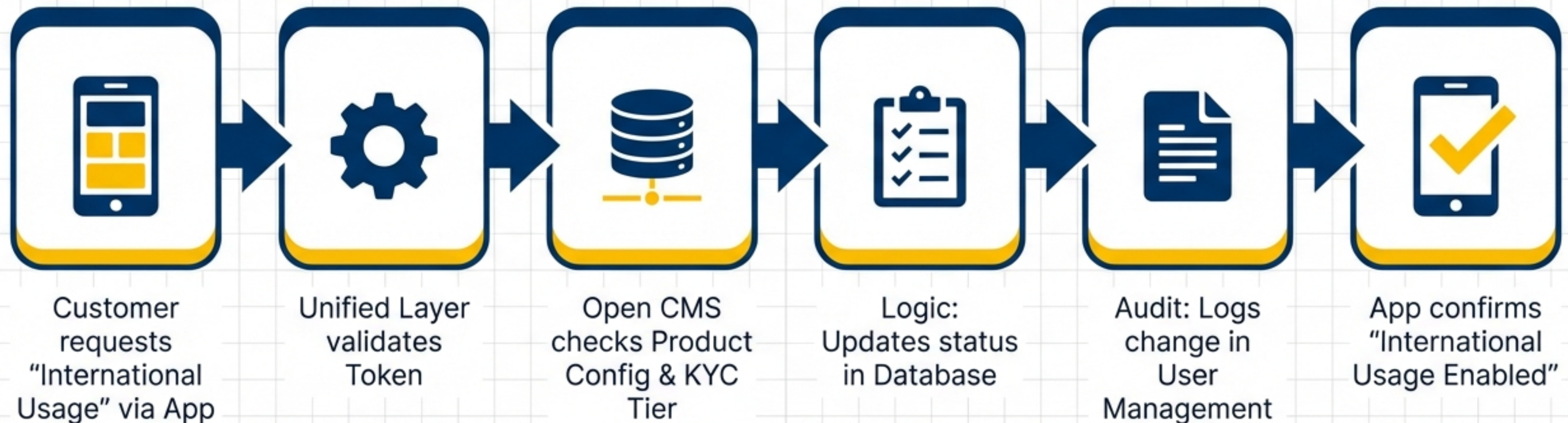
RESTful endpoints powering modern digital channels.



Security: Token-based authentication for all channel requests.

Use Case: The Digital Customer Journey

Enabling International Usage



Strategic Value & Operational Readiness

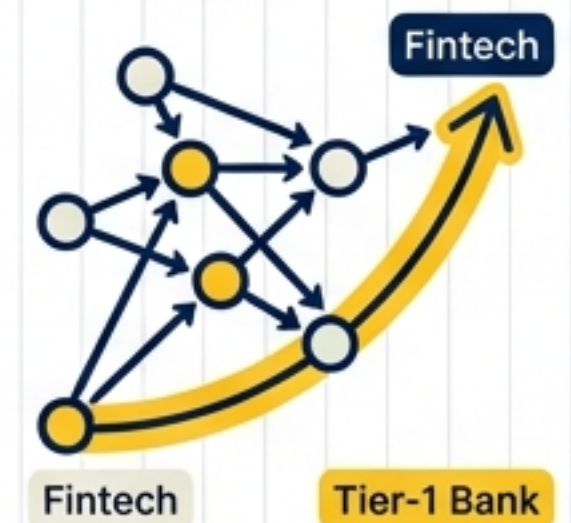
Secure

PCI DSS-certified environment ensuring data protection.



Scalable

Powered by RabbitMQ and SOA to support growth from Fintech to Tier-1 Bank.



Connected

Pre-integrated with 1Link, and Global Schemes.



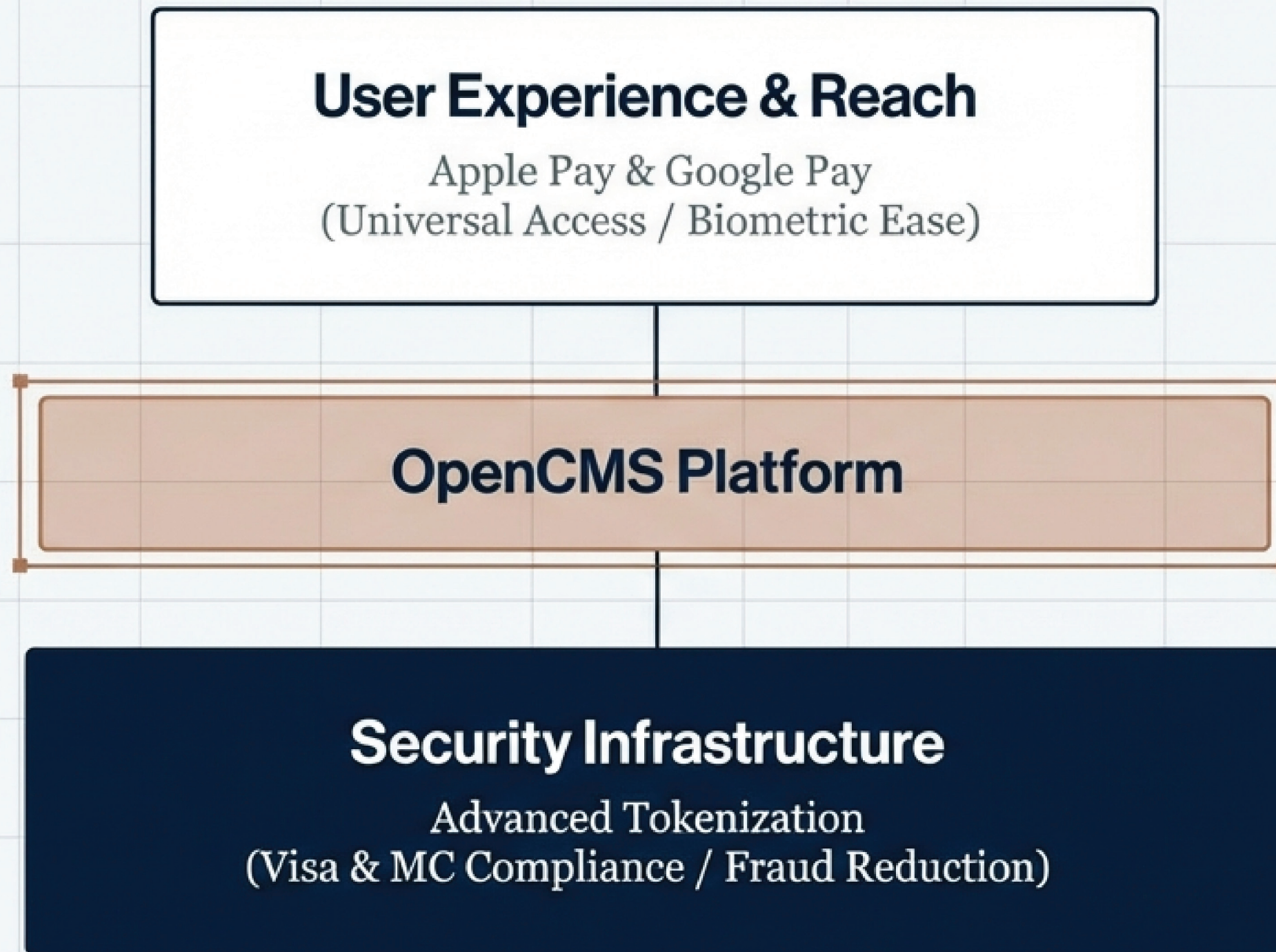
Controlled

Total governance via Maker-Checker workflows and granular configuration.



The Unified Roadmap

OpenCMS is bridging the gap between legacy infrastructure and the next generation of payment rails.



“Delivering security at the *core* to enable innovation at the edge.”

Universal Android Reach: Google Pay Support

Expand the card's footprint across the global Android ecosystem with native 'Tap-to-Pay' capabilities.



Physical World Utility

Tap-to-Pay

Expand the card's footprint across the global Android ecosystem with native 'Tap-to-Pay' capabilities.

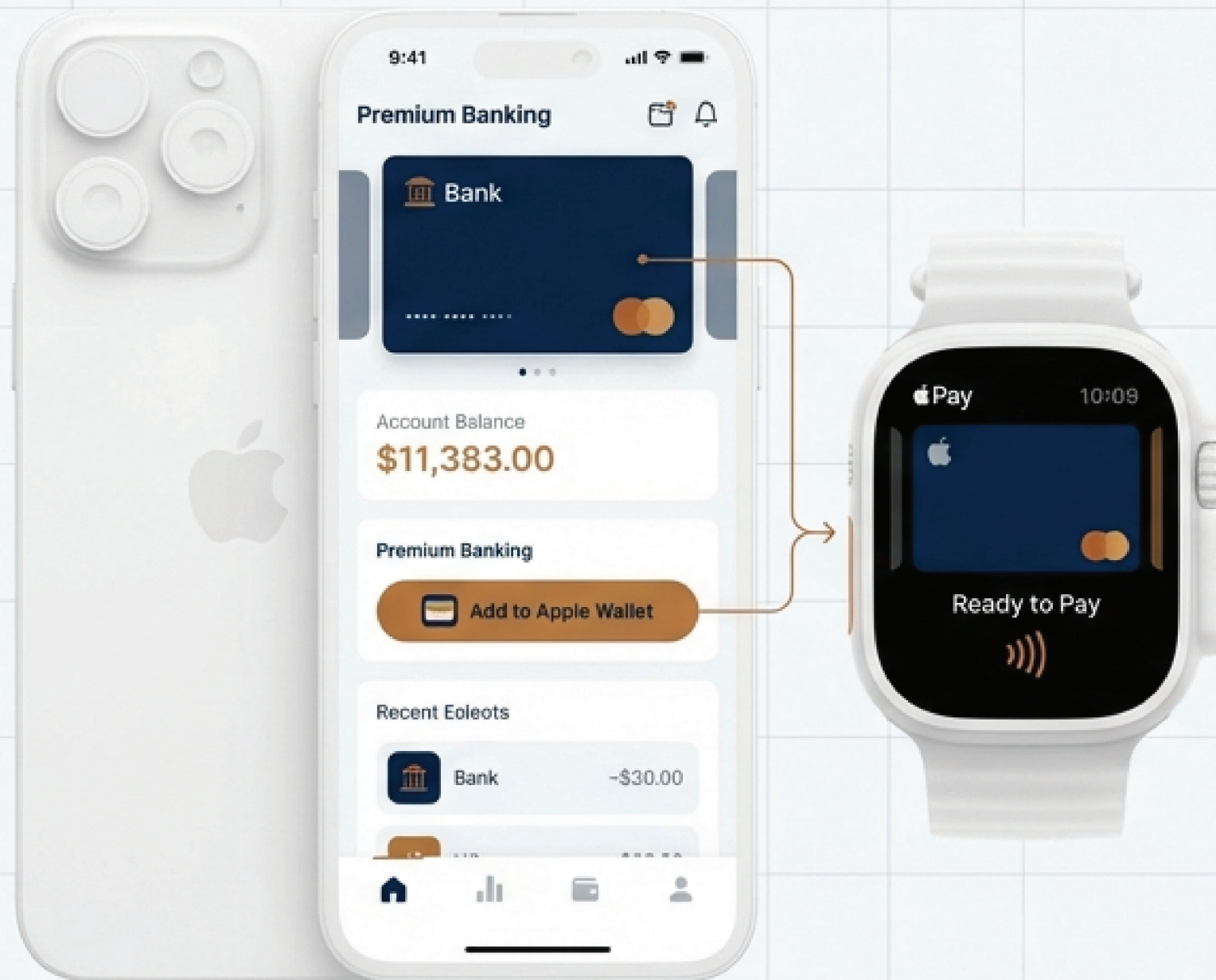


Digital Commerce Utility

Simplified E-commerce

Streamline the online checkout experience with 'Click-to-Pay' integration for web and mobile merchants.

Capturing the iOS Ecosystem: Apple Pay Integration



The Onboarding Experience

Seamless Provisioning

Enable customers to add virtual or physical cards to the Apple Wallet directly from the mobile app.

The Transaction Security

Biometric Trust

Support for secure, tokenized NFC transactions via iPhone and Apple Watch. Authenticated by FaceID or TouchID.