ChromaFi

Chroma Solutions

Enterprise Payment Infrastructure Modernization

Modern component framework for enabling faster fintech development, integration, and secure cloud migration capabilities

Executive Overview

ChromaFi® is a foundational payment infrastructure platform that enables financial institutions and fintech's to rapidly build and scale payment platforms. It delivers standardized, reusable components for payment orchestration, network integration, and transaction lifecycle management, reducing time-to-market and operational complexity. Empowering CTOs to modernize payment architectures, improve resiliency, and future-proof platforms against evolving payment rails and regulatory requirements.

What sets us apart?

ChromaFi® Platform is series of components, "a framework" that as we grow, we plan to continue to add fintech-centric components, raw but tailored code, and custom solutions that can help our customers fully meet their fintech technology goals. Our collective payments experience provides us a pointed focus to lower development costs, resource utilization, and increase time to market for your products and services.

The **ISO 8583 Framework** Library is a robust foundation for building and operating financial transaction processing systems. It enables organizations to reliably parse, construct, and validate ISO 8583 messages - the global standard for card and payment network communications. The framework simplifies integration with payment networks and financial institutions through flexible message mapping, configurable field definitions, and strong validation and error-handling capabilities. By abstracting protocol complexity, the library accelerates development of authorization, routing, and reconciliation workflows while ensuring standards compliance and interoperability across both ASCII and binary message formats.

- **End-to-End ISO 8583 Message Handling**
  Provides complete parsing, construction, and validation of ISO 8583 messages, reducing implementation risk and ensuring reliable transaction processing.
- **Flexible Network Integration**
  Supports configurable field definitions and adaptable message mapping, enabling rapid onboarding of multiple payment networks and financial partners.
- **High Reliability Through Robust Error Management**
  Delivers advanced error detection and handling to minimize transaction failures, operational disruptions, and reconciliation issues.
- **Broad Interoperability**
  Supports both ASCII and binary encodings, allowing seamless connectivity across heterogeneous payment and core banking systems.
- **Built-In Developer Utilities**
  Includes bitmap management and message packing/unpacking tools that accelerate development and reduce maintenance overhead.
- **Payment Workflow Enablement**
  Enables rapid implementation of routing, authorization, and reconciliation workflows while maintaining full compliance with ISO 8583 standards.

The **Stand-In Processing Framework** is a modular, developer-friendly platform that enables payment systems to maintain transaction continuity during downstream outages by intelligently authorizing transactions on behalf of unavailable issuer or host systems. The framework combines a smart decision engine with data-driven configuration to deliver high availability, controlled risk, and operational resilience across payment switch environments. Designed for modern payment infrastructures, the framework empowers developers to rapidly build, customize, and deploy stand-in business processes without hard-coding rules or compromising compliance. It supports both rule-based and AI-assisted decisioning, enabling institutions to balance customer experience, fraud risk, and regulatory controls in real time.

Data-Driven Configuration

The framework replaces static, hard-coded logic with externally managed configuration, enabling real-time policy updates without redeployment. Configuration is driven by:

- BIN-level and product-level stand-in policies
- Transaction limits, counters, and risk tiers
- Merchant category and channel-specific controls
- Time-bound and outage-specific rules

Result: This approach allows operations, risk, and compliance teams to adjust stand-in behavior dynamically as business conditions evolve.

Developer-First Architecture

Built as a reusable framework, the solution provides developers with:

- Clear functions for decisioning, policy evaluation, and transaction scoring
- Pluggable modules for rules engines, and data sources
- Support for ISO 8583, API-based, or hybrid payment flows
- Extensible hooks for issuer-specific logic and audit requirements
- Developers can quickly assemble custom stand-in business processes without re-engineering the core switch logic.

Operational Resilience and Governance

The framework ensures enterprise-grade reliability through:

- Automated fallback activation and graceful recovery
- Full auditability of stand-in decisions
- Post-recovery reconciliation and exception handling
- Policy versioning and traceability for regulatory compliance

Result: This guarantees that stand-in processing remains controlled, transparent, and compliant, not a blind approval mechanism.

The **Payment Data Tokenization Framework** is a reusable, standards-aligned platform designed to secure sensitive payment data while dramatically accelerating application development and integration across the payment's ecosystem. By abstracting complex security, compliance, and lifecycle management concerns behind simple, well-defined functions, the framework enables teams to build, integrate, and scale payment solutions faster, safer, and with lower operational risk. At its core, the framework replaces sensitive payment elements such as PANs, bank account numbers, and personally identifiable information (PII) with non-sensitive tokens that can be safely used across internal systems, partner integrations, and cloud-native environments. This approach minimizes data exposure, reduces compliance scope (PCI DSS, privacy regulations), and simplifies secure data sharing without sacrificing performance or interoperability.

Platform Capabilities

- **Unified Token Services**: Standardized functions for token creation, validation, lookup, and controlled de-tokenization
- **Policy-Driven Controls**: Fine-grained access, purpose binding, and usage restrictions enforced centrally
- **Developer Enablement**: SDKs, sandbox environments, and reference integrations to speed onboarding
- **Observability & Governance**: Built-in audit trails, monitoring, and compliance reporting
- **Ecosystem Integration**: Works alongside switch platforms, payment networks, fraud systems, and real-time payment rails

The **Cloud Booster** framework is a repeatable set of guidelines and transformation components that help accelerate migration of typical distributed on-premises products and services. Via various mechanisms, such as transformation, lift and shift, modernization, containerization, and other facets, this helps developers improve overall time to market, development capital expenditure reduction, along with resource available cycle times to get the best results of your cloud migration without exhausting money, resources, and time.

Cloud Migration Fast Track

- **Reduce Capital Costs (Cap Ex/Op Ex)**: Reducing the overall investment in development dollars can not only help reduce the already burdened impact on your development staff but also help manage overall expenses.
- **Time to Market**: By having pre-defined, config-driven tools that help convert typical distributed products to cloud-native products in various forms, will help overall acceleration of production-readiness and the ability to keep business continuity and customer experience in focus.
- **Various Modalities**: The ability to bring to bear various design patterns and migration approaches is a considerable benefit to our customers. From **Lift and Shift**, vs **Modernize/re-architecture**, or more common conversions like **containerization**, **micro-service enablement**, you will have the tools needed to navigate any effort of any size. This provides ways for you to quickly define your migration plan and reduce time and resources committed for these overall efforts.