

# AILC INTELLIGENT LEAD MANAGEMENT PORTAL

## BIGDATASOFTWAREMANAGEMENT

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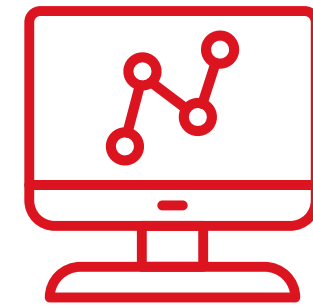
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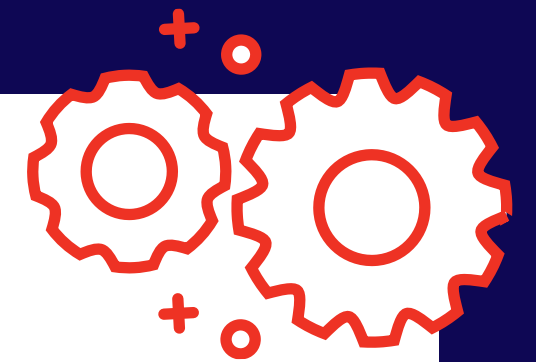
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## PROJECT BACKGROUND & MOTIVATION

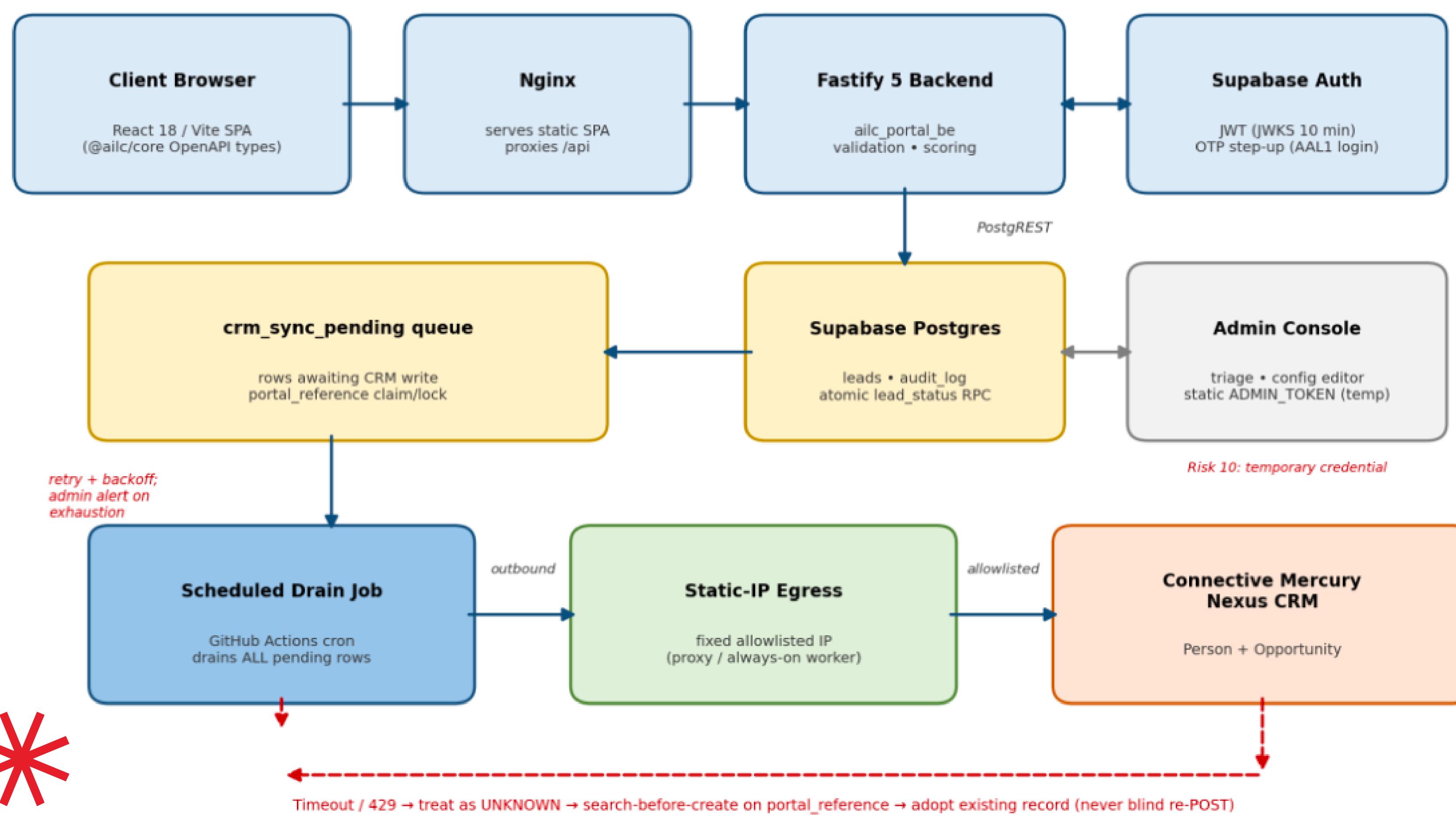


Legacy intake mechanisms relied heavily on low-code forms (Heyflow), Zapier automation, and Connective Mercury Nexus CRM. This setup exposed sensitive PII data in plaintext through public URL parameters and triggered non-atomic duplicate lead creation whenever timeouts or network retries occurred. To solve this, AILMP introduces a custom, fully in-house intake portal and API integration engine designed specifically for high data integrity, strict session security, multi-language localization, and reliable, idempotent CRM synchronization.

## KEY FEATURES & CAPABILITIES



- **Custom Intake Wizard:** In-house validation, dynamic question workflows (Buy, Refinance, Loan Type selection), dynamic document templates, and backend lead-scoring logic (loan bands, business day calculations, KYC rules).
- **Atomic Sync & Idempotency:** Custom two-stage queue separating Lead (unverified intent capture) from Application (staff-verified data ready for Mercury sync) with search-before-create logic to guarantee zero duplicate writes.
- **Risk-Based Identity Control:** Multi-factor authentication combining Email/Password, remembered device sessions, and step-up SMS OTP verification.
- **Localization & Admin Control:** Real-time multi-language translation (English to Vietnamese via localized key files) and an administrative console to manage pipeline states.



## SYSTEM ARCHITECTURE DIAGRAM

The end-to-end data flow begins at the client browser utilizing a React component architecture. Requests pass through a Fastify backend and Nginx API layer into a decoupled database that maintains distinct schemas for Lead and Application entities. Once processed through the backend rule and scoring engine, data is staged for scheduled drain jobs via a static-IP egress proxy directly into Connective Mercury Nexus CRM.

## SYSTEM EVALUATION & KEY RESULTS

The platform reached 44%+ overall milestone completion, fully delivering the core intake wizard, backend scoring rules, dynamic templates, and multi-language support. Testing demonstrated a 100% pass rate across test applications into Mercury CRM, while strict Lead and Application two-stage separation guaranteed 100% idempotency with zero duplicate writes. Additionally, security hardening successfully eliminated PII leak vectors from third-party URL parameters by enforcing 2FA SMS verification and remembered device session management.

## TECH STACK

- Frontend: OpenAPI schemas (@ailc/core), Localized Key/String Translation Framework.
- Backend & Infrastructure: Static-IP Egress Proxy, Automated Rule-Based Calculation Engine.
- Database & Auth: Supabase Postgres (RPC Atomic Locks, isolated Lead/Application data schemas), Supabase Auth (JWT, Session Memory, SMS OTP).



## FUTURE ROAD MAP

Development will progress across three post-MVP phases. Phase 1 focuses on completing the Member Dashboard, persistent site navigation, and Application Status Tracking views. Phase 2 introduces integrated Document Uploads and automated ID verification workflows. Finally, Phase 3 expands user engagement through a Member Rewards Portal (Points & Redemption Engine), Referral Tracking, and Portfolio Insights.