

PRODUCT CASE STUDY: Scaling to \$70M ARR

The 30-Day Turnaround of an AI-Native Onboarding Engine

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Executive Summary

In early 2024, Silverware POS launched an in-house payment solution that quickly became victim to its own manual complexity. By October 2024, the initial rollout (supported by a team of six) had failed to gain meaningful traction. I requested ownership of the project and, within 30 days, designed and deployed an AI-native orchestration stack that reached full effect by November 2024.

By December 2024—just 60 days from takeover—the engine successfully scaled onboarding volume from <\$10M to \$70M in monthly ARR (\$840M+ annual run-rate) while reducing required staffing by 67%. This study details the technical architecture and product leadership required to achieve this rapid enterprise scale.

The Challenge: Three Layers of Friction

I identified that the initial launch failure wasn't a resource problem, but an architectural one. We were fighting three distinct 'Scale-Killers':

- **Merchant Communication Deadlock:** Merchants frequently failed to provide critical technical/PCI data. The manual follow-up loop was inconsistent, causing projects to stall in silent limbo.
- **Capacity Matching Blindness:** Scheduling used static 1-hour slots. A merchant with 3 units was over-served, while a merchant with 30 units caused massive installer overruns.
- **Data & Tool Fragmentation:** Critical shipping info was trapped in inconsistent warehouse emails, while project state was split between ClickUp, Salesforce, and technician side-chats.

Phase I: The Foundation (Intake & Extraction)

The first goal was to regain control of unstructured data. I built an 'Email OS' that automatically categorized inbound communications to prioritize urgent tasks and filter noise.

Technical Spotlight: Zero-Touch Extraction

Warehouse vendors sent shipping data in varying formats. I used n8n and OpenAI to build an extraction engine that identified tracking variables, updated ClickUp records, and generated merchant notifications with clickable links. This eliminated 10+ hours of manual entry per week.

Phase II: The Execution Engine (Procurement & Visibility)

I moved the project from 'tracking' to 'executing' by centralizing logic in ClickUp:

- **Automated Procurement:** Based on merchant hardware selections, the engine automatically updated project statuses and ordered required inventory.
- **Automated Licensing:** The system identified licensing gaps and initiated automated conversations with both the client and Sales to secure necessary software permissions.
- **C-Suite Visibility:** Built dynamic dashboards that updated leadership in real-time, pushing notifications for milestone events directly to the executive team.

Phase III: Capacity & Resilience (Stateful Orchestration)

To achieve the \$70M ARR scale, I had to solve the 'Supply vs. Demand' problem of installer time.

Technical Spotlight: The Hardware Logic Matrix

I designed an Excel-based matrix that assigned specific 'Time Values' to hardware SKUs (e.g., 5-min units vs. 30-min units). The engine calculated the required window and used MS Bookings Webhooks to offer only those specific blocks to the merchant, ensuring 100% schedule accuracy.

The Persistence Engine & HITL

To solve client non-responsiveness, I built a state-aware nudge system. The engine monitored deadlines and sent automated reminders, but automatically removed merchants from the sequence the moment data was ingested. For complex edge cases, I integrated Microsoft Teams 'Human-in-the-Loop' (HITL) cards to dictate workflow branches.

Phase IV: Technician Enablement (Generative Setup)

The final bottleneck was technician support load. I shifted the technical burden from the manager to the Engine.

- The Generative Script Factory: Built an LLM-driven engine where installers selected the environment (Server vs. Workstation). The system generated custom PowerShell code that enforced private network states and verified all software dependencies post-install.
- Pre-Enablement ROI: Upon shipment, the system triggered automated prep-instructions to the merchant, saving ~20 minutes of setup time per device during the live installation call.

Business Impact: Hard Metrics

- Financial Velocity: Scaled from <\$10M to \$70M monthly ARR in 60 days.
- Operational Leverage: 67% reduction in headcount (6 staff to 2) while volume grew 7x.
- Installation Velocity: Increased from 6 units/hour to 15 units/hour (150% increase).
- Quality Assurance: 100% address accuracy (Google Maps API) and near-zero config errors.

Technical Stack

Orchestration: n8n, Power Automate | Cloud & APIs: GCS, Google Maps API | Resource Mgt: MS Bookings, MS Teams (HITL) | AI: OpenAI GPT-4, Llama 3 (Local) | Data: ClickUp, Excel Logic Matrix.