
CUSTOM SOFTWARE & AI INFRASTRUCTURE

A multimillion-dollar trades business, run by **three people.**

A custom CRM built for AI agents.

How Avolis designed and built a fully custom operations platform — one that represents a dual-line business natively, keeps three founders lean, and is architected to be run by AI agents as they take on more of the work.

SECTOR

Residential general contracting · dual service line

ENGAGEMENT

Custom build + AI enablement, ongoing

SCOPE

Custom CRM, AI layer, agent-ready architecture

01 — COMPANY PROFILE

Two service lines, one office, **three people**.

The client is a **licensed residential general contractor** in a fast-growing Sun Belt metro, run by a young founding team of three and specializing in high-end, large-scale residential transformations. The firm operates **two distinct service lines under one roof** and markets them separately, each with its own brand motion and lead pipeline. Its promise to homeowners is fully turnkey delivery: one team, one point of contact, design through completion, with a tech-forward, highly organized process as an explicit part of the brand.

Project delivery leans on subcontracted specialty crews for large builds, with the core team owning **design, sales, estimating, scheduling, and client relationships**. Demand runs ahead of capacity; the firm maintains a project waitlist.

— THE INDUSTRY

The firm operates in a strong market. The US home improvement and residential renovation industry is estimated at roughly **\$600 billion in 2026** and continues to grow steadily, driven by an aging housing stock and elevated mortgage rates that keep homeowners in place and investing in their existing properties. Running two separately marketed service lines with three people compounds every operational problem a small contractor faces: **two marketing motions, two lead pipelines, and two kinds of jobs** flowing through one tiny office, with the coordination load of subcontracted crews on top.

3

People running the
entire business

2

Separately marketed
service lines

\$600B

US home improvement
market, 2026

02 — THE STARTING POINT

No off-the-shelf tool **fit the business.**

The tools available to the firm could not keep up with its structure. Off-the-shelf CRM and job-management platforms are built around **a single service line, a single pipeline, and a single marketing motion.** None of the platforms the team used were robust enough to handle a business running two separately marketed offerings, and the big-name alternatives carry per-seat pricing and feature bloat aimed at companies many times this size.

The team also carried the operational pattern common to small trade businesses: **spreadsheets and email holding the process together**, knowledge living in people's heads, and administrative work consuming hours the three founders needed for selling and delivering jobs.

Buy didn't work

Single-pipeline platforms can't represent a dual-line business. Enterprise alternatives bill per seat, per month, indefinitely — for feature sets built around companies many times this size.

The status quo didn't scale

Spreadsheets and email held the process together, knowledge lived in people's heads, and admin work ate the hours three founders needed for selling and delivering.

The answer to the CRM question wasn't to buy or configure. **This time it was to build.**

03 — WHAT AVOLIS BUILT

A custom CRM for a dual-line business.

Avolis applied its operations playbook — the same approach used with other trade clients — with one significant difference: because no off-the-shelf platform fit, Avolis **designed and built a fully custom CRM and operations platform** around how the business actually runs.

— THE CORE CONCEPT • A TWO-DIMENSIONAL PIPELINE

Every deal belongs to one of the **two service lines** and to one of **two workflows** — **sales or production** — each combination with its own ordered stages. Deals move across a drag-and-drop board that updates live for the whole team, with per-stage checklists that can advance deals automatically and a complete audit trail of every stage move. That structure — **two business lines and two workflows in one system** — is precisely what generic platforms could not represent.

✦ **Two service lines** — each with its own brand, pipeline, and stages.

↔ **Two workflows** — sales and production, each with ordered stages.

✓ **Per-stage checklists** that can advance deals automatically.

≡ A **complete audit trail** of every stage move, live for the team.

THE PLATFORM · ONE DEAL, END TO END

From first web lead to **completed job**.

The platform carries a single deal from first web lead through intake, design, quoting, signature and deposit, construction, and completion.

Lead intake A public web form drops new leads into the correct pipeline automatically, routed by project type, and alerts the team in its chat workspace in real time.

Estimating A full estimating engine builds quotes from a reusable price library and pre-structured templates — per-line labor, material, and markup, live profit-margin visibility, a payment draw schedule, and immutable version snapshots each time a quote goes out.

Closing One action generates the branded quote PDF, a deposit checkout session, and an e-signature request. The deal closes only when **two independent confirmations converge** — document signed and deposit paid — with automated follow-up if a client goes quiet.

Client portal Homeowners log in to a branded proposal view — scope, totals, payment schedule, signing and deposit buttons, a comment thread, and a project-status AI chat that sees only their own client-safe data. The portal is the promise made visible.

Vendor ops Central subcontractor and supplier libraries track trades, ratings, rates, and insurance and license expirations — the coordination backbone for a subcontracted delivery model.

Dashboard Live stat cards, a pipeline funnel, quote metrics such as close rate and days to sign, and a rule-based daily briefing that surfaces stale deals, new leads, and pending proposals.

The build carried none of the licensing costs or unused features of enterprise platforms — only the capabilities the team needed.

THE AI LAYER

Useful, without becoming a runaway expense.

An assistant is built into the platform, with live business context injected on every question: current pipeline data, the specific deal being viewed, and the extracted text of company and project documents. The engineering is deliberately disciplined.

A fast classifier **routes each request to the cheapest model** that can handle it.

Repeated context is **cached to cut cost**, and every call's spend is logged.

Hard daily and monthly spend limits are enforced before a response is ever generated.

The result stays useful — which matters when handing this to a small business.

BUILT FOR AGENTS, NOT JUST CLICKS

The defining architectural decision is that the CRM is **programmable — reachable three ways with the same rules enforced on every path**: the staff interface, a versioned REST API for external systems, and a Model Context Protocol server that lets AI agents operate the CRM directly — listing and updating deals, moving pipeline stages, adding notes and tasks, building quotes, and managing the price library and vendor records.

The MCP server is secured the right way: agents authenticate as a **real user with that user's actual permissions**, through the same login system the staff use, rather than through an all-access integration key. Every write path — human or agent — funnels through the same shared logic, so a deal cannot be corrupted no matter who or what is driving.

The firm now owns a piece of technology **built to be run by AI agents** as they take on more of the work — with designed-in extension points for stage-triggered agents across intake, design, takeoffs, bid packages, and scheduling.

04 — THE OUTCOME

Millions in revenue, **owned outright.**

\$M+ / yr

Revenue generated by a team of three

\$0

Per-seat licensing — the core system is owned outright

Agent-ready

A properly secured interface AI agents can operate

The firm operates as a team of three generating **millions of dollars per year in revenue**. It owns its core system outright: no per-seat licensing, no feature bloat, no dependence on a vendor's roadmap, and a platform that AI agents can operate through a properly secured interface.

Deliberately lean

Large jobs are subcontracted out while the founders run sales, design, and coordination through the platform. The foundation is built to **absorb growth in either service line without a matching growth in headcount.**

AI as a market differentiator

The tech-forward, organized process is a published part of the pitch to homeowners — and the client portal where homeowners watch their own project move is one of the systems Avolis built. **Operational AI wins jobs.**

Avolis also trained the team to work through **Claude across the business**, keeping three people productive at a level that would otherwise demand a much larger back office.

05 — WHAT THE ENGAGEMENT REPLACES

Two markets to shop, a third to hire.

A firm assembling this capability piecemeal would be shopping in two separate markets, then hiring for a third. Benchmarked against current national market rates:

FUNCTION AVOLIS COVERED	TYPICAL ALTERNATIVE	EST. MARKET COST
Custom CRM & ops platform — dual pipelines, estimating engine, e-sign & payments, client portal, AI layer, agent-ready APIs	Custom dev agency	~\$75K–\$150K+ build +15–20% / yr upkeep
Team-wide AI training & enablement	Corporate AI trainer	~\$15K–\$40K / engmt
Back-office administration the platform & AI workflows absorb	Office admin hire	~\$40K–\$60K / yr (2nd seat \$70K–\$100K)
Piecemeal equivalent, first year		~\$130K–\$250K

And the dollar figure understates the gap in kind. A development shop would ship the CRM and close the ticket; **a platform with a properly secured agent interface is not something contractors can currently buy off the shelf at any price.** The back-office comparison reflects headcount the firm never had to add — which is the point: the founders' hours stay on selling and delivering jobs.

The comparison is deliberately conservative: it reflects functional coverage rather than actual purchases, uses the low-to-middle end of published market ranges, counts one back-office seat where growing contractors typically add two, and excludes software licensing.

06 — TECH STACK

The platform, **under the hood.**

CUSTOM CRM

Built by Avolis — Next.js 16 / React 19 + TypeScript platform: dual-track Kanban pipelines, estimating engine, client portal, dashboard

SUPABASE

Postgres, auth, storage, and live realtime updates; row-level security on every table

VERCEL

Serverless hosting and scheduled jobs

CLAUDE

Anthropic Claude — in-app assistant with tiered model routing, prompt-cached context, and hard spend limits

MCP + API

OAuth-secured Model Context Protocol endpoint and versioned REST API so AI agents and external tools operate the CRM

DOCS & PAY

Documenso + Stripe — e-signature and deposit collection wired to a signed-and-paid deal-close flow

SLACK

Real-time alerts for new leads, closed deals, and follow-ups

Every write path — staff interface, REST API, and MCP server — funnels through **the same shared logic and the same permission model**, so the platform behaves identically no matter who or what is driving it.

 EMBEDDED AI LEADERSHIP

Built on real work. Measured by **results.**

Embedded AI leadership at a fraction of building it in-house. If there's a piece of your operations no off-the-shelf tool can represent, let's find out whether it's worth building.

[Contact us →](#)

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