

Sean Coates

Backend, infrastructure, and iOS. Twenty-five years of shipping production systems, usually as the person who owns the whole stack.

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SUMMARY

Hands-on engineer and technical lead with 25+ years building and running production systems: backend services, cloud infrastructure, APIs, and mobile apps. Comfortable as the entire technical function of a small company, and as a senior contributor on a larger one. A track record of small teams shipping reliable software at strikingly low operating cost: an ecommerce integration layer carrying every Samsung consumer transaction in 20+ countries for under \$1,500/month; a payments platform for under \$200. Particular focus on correctness in systems where mistakes are expensive. Production work in Swift, Python, PHP, JavaScript, and Perl, across embedded, mobile, backend, and infrastructure; the language has rarely been the constraint.

EXPERIENCE

Sloates & Coan — Partner, Consultant

2026 – PRESENT

Boutique consultancy with Nick Sloan, a collaborator across four companies since 2008, most recently as Studioworks's entire engineering team. Native iOS and macOS apps, full-stack web, and backend systems, APIs, and cloud infrastructure; also architecture review, performance, and training. <https://sloatescoan.com/>

Studioworks — Head of Technology

OCTOBER 2024 – JULY 2026

Half of a two-engineer team at a four-person company. Built and operated the entire product and platform from zero to launched, paying customers, serving up to 1,000 creative studios.

- Designed and built the production backend in Swift (Hummingbird) on AWS with DynamoDB, taking the application from nothing to live users.
- Owned all infrastructure, designed to be self-healing and auto-scaling: failed nodes recovered without intervention, traffic increases scaled automatically, and the service held **100% production uptime from launch onward**.
- Kept internal request latency **under 100ms**.
- Ran the entire production platform on **under \$200/month** of infrastructure.
- Architected the payment state machine governing how customer payments progress, with **zero internal financial or accounting errors** over the life of the product.
- Chose Swift deliberately: its compiler and type strictness are what let two engineers reach and hold that reliability bar.

Matter Neuroscience — V.P. of Technology

APRIL 2022 – OCTOBER 2024

- Designed and implemented a device-first privacy architecture in which user content never reaches company servers: emotional data and memories remain in on-device storage, and backed-up photos are encrypted client-side so servers hold only opaque bytes, with no access to keys or contents. (seancoates.com/blogs/matter-and-privacy)
- Built and shipped the Matter iOS app; owned IT policy and systems, including secure self-hosted internal communication.
- Architected and deployed APIs for zero-knowledge, downtime-proof asset storage, designed so aggregate analytics remained possible without ever identifying an individual user or recovering their inputs.

Faculty — Backend and DevOps Lead

JANUARY 2018 – APRIL 2022

- Backend and infrastructure lead. Built reusable cloud infrastructure and templates that let a small team take on disproportionately large engagements.
- Continued as technical lead on **Samsung's Bifrost** logistics integration through its final phase and the handover to Accenture (began at Fictive Kin; see below).
- Architected the token format behind Simply Framed's custom framing platform: a compact encoding of a customer's choices from roughly 10.5 sextillion possible permutations, short enough for a URL while driving the API, live preview, sharing, and fulfillment.

Fictive Kin — Partner

JANUARY 2010 – DECEMBER 2017

- Technical lead on **Bifrost**, the integration layer between **Samsung's** ecommerce platforms and their third-party logistics providers worldwide. Architecture, engineering, operations, and engineering management, through to client meetings and on-site work in Korea, Brazil, Canada, and Australia.
- Designed a single generic 3PL API covering order handoff, pricing, inventory, and shipping, absorbing the differences between logistics partners in every market. Documented and supported it so partners could integrate themselves, and built the adapter ourselves wherever a partner couldn't or wouldn't.
- First version shipped in six months; most new-country onboardings took a month or less. Ran in **20+ countries**, carrying every Samsung consumer ecommerce transaction in those markets, until Samsung restructured and the system was handed over to Accenture.
- 100% uptime, fully instrumented to detect and report partner protocol and integration faults, and designed to degrade gracefully when a 3PL's API went down, inferring availability from sales data internal to our system.
- Built on AWS Lambda with **Zappa**, for **under \$1,500/month** in hosting across all countries combined, with a team never larger than 8–10 people.
- Fictive Kin also ran as a product studio: I took a steady stream of consumer products from zero to launched, including *Gimme Bar*, *Haven*, and product work with **Betaworks**, while owning operations, developer tooling, backend development, infrastructure, and databases, and building the engineering team.

EARLIER EXPERIENCE

- **OmniTI** — Web Architect (2008–2009). Led developers and engineers on client projects; designed and built full-stack client systems; client management.
- **php|architect** / **MTA** — Editor in Chief, Developer, Ops (2005–2008). EiC of the magazine, and ran most of the technical side of the business: publishing tooling and infrastructure. Also author and trainer management, and conference production.
- **Paysystems** — Developer (2002–2003). PHP backend systems processing >\$1,000,000/day in third-party payments.
- Earlier: **Budget Conferencing** (2003–2005), **High Touch Communications** (2001–2003), **Parlez Communications** (2000–2001), **Hawk** (1999–2000), **T&T Internet / The Times Transcript** (1999, first hire).

SKILLS

LANGUAGES & BACKEND — Swift (Hummingbird), Python, PHP, JavaScript, SQL; HTTP, REST, relational and key-value databases (DynamoDB), queues, caches

INFRASTRUCTURE & MOBILE — AWS (Lambda, autoscaling), infrastructure as code, high availability, monitoring, networking, Linux; iOS, Core Data, App Store

PRACTICE — security, privacy, performance, testing, CI/CD, architecture, technical policy, team building, product planning

OPEN SOURCE & PROJECTS

A long habit of contributing upstream to the tools I run in production:

Swift — contributor to Hummingbird, the server framework behind Studioworks; author of hummingbird-macrorouting.

Python — developer on Zappa, the serverless deployment tool I ran Samsung's Bifrost on. Speaker, PyCon Montréal 2017.

PHP — credited contributor to the manual, infrastructure, web properties, extensions, and core (not engine). Speaker at many conferences; Habari.

Independent — embedded Swift (ESP32 / ESP-IDF), a Swift PaaS deployment tool, and a self-hosted infrastructure lab; LLM and agentic tooling throughout. <https://github.com/scoates>

EDUCATION & LANGUAGES

Certificate of Multimedia and Design, 1998–1999. *East Coast Business Institute*, Moncton, New Brunswick, Canada

Languages — English (primary), Français