Engineer Software

Reached the unused half of the core

Reached the half of the messaging core the application had never used — backup transfer, disappearing messages, message editing and resending, verified invitations, proxies and encryption policy — driving every test against the real library with no mocks.

September 2026

the half of the core the application had never used

Situation. The client used roughly half of what the messaging core offers. The unused half was not obscure — backup transfer between devices, disappearing messages, message editing and resending, verified invitation links, proxy configuration and the encryption policy for a chat. Each is a feature a user would expect and each was an untested region of the C interface, which is the more dangerous fact, because an untested region of a C interface is where the ownership mistakes live.

Task. The unreached capability had to be driven and covered, and the tests had to run against the real library rather than a stand-in.

Action. The rule adopted was no mocks for the core. A mock of a C interface encodes the developer's belief about what the library does, and every defect worth finding here is a place where that belief is wrong — so a passing mock-based test is evidence about the mock. Instead the tests create real accounts in temporary directories, drive the real library, and assert on what it actually returns, with each suite cleaning up its own state. That is what made the coverage meaningful: exercising backup transfer meant handling a real transfer's state machine and its failure paths, and exercising verified invitations meant constructing the real link format and having the library parse it. Coverage floors were set per layer rather than as one number, at eighty-four percent for the core wrapper, seventy-five for utilities and sixty-five for models, on the reasoning that the layer touching raw pointers should be held highest and a model that is mostly stored properties should not be padded with tests to hit an average.

Result. The previously unreached half of the core is driven by tests against the real library, and the wrapper carries the highest floor in the project. The cost is speed and determinism: real-library tests are slower than mocks and they can fail for environmental reasons, which is the price of them being able to fail for real ones.

Bring this experience to your project

Use “Reached the unused half of the core” as a starting point for a similar challenge in your organisation. The services behind this work are available for your project. The part users never see: where the data lives, what the rules are, and how other systems are allowed to talk to it.

Explore our services Get in touch →

Look behind the result

Read the situation, decisions and result in this example. We can discuss which parts transfer to your constraints and which need another approach. Reached the unused half of the core — the half of the core the application had never used

Explore our services Get in touch →

Using a fraction of the library you already pay for?

Talk through your project with the engineer responsible for delivery. We agree the scope, price basis and handover in writing before work begins.

Role context: macOS Application Engineer. It draws on Backend Engineering, APIs & Integration, Automation & CI/CD, Reliability & Backups, Security and Testing & QA. And while you are here, we are rather good at Backend & API Development, DevOps & CI/CD Automation and Security & Access Management.

Get in touch Explore our services

One piece of **a longer record** — and it is all on this site.

Every entry is written the same way: the situation, the task, what we did and what changed.

See the whole record

Define the improvement you need

Describe the workflow, the existing interfaces and the users who need the change. We can define a testable delivery and a handover that lets your team maintain it.

See what it costs Get in touch →

Using a fraction of the library you already pay for?

Ask about the decisions behind “Reached the unused half of the core”. You will speak with the people who can explain the work and assess your own project.

Explore our services

welcome@engineer.company +45 50 10 61 84 Copenhagen, Denmark

Take this page with you

Contact card

Carefully Crafted With Love by D.

CVR 45969703 · Tagensvej 105C, 3. th, 2200 København N

Copyright © 2025 – present · Engineer ApS · All rights reserved.

Printed from https://software.engineer.company/portfolio/reached-the-unused-half-of-the-core/