



Success story

The Clinician's leap into next-gen healthcare

Our client, [The Clinician](#), provides solutions globally, driven by the vision of a better future for healthcare. They have redefined how health providers remotely monitor patients, ensuring providers stay informed about the patient's health status while in their community.

The Clinician aimed to make the digital platform that supports their solutions, more observable, adaptable, and robust. However, they lacked the time and resources to fully develop a proof of concept and quickly validate the feasibility and effectiveness of their next-generation software. VirtusLab assisted by developing a scalable, extendible, and future-proof microservices architecture that supports various communication protocols.



The Challenge

The Clinician team set out to overhaul their fundamental technology but faced a shortage of time and resources to create a proof of concept. This prototype was necessary to prove the new tech's value and efficiency. On top of that, they had to navigate complex eHealth regulations that varied from region to region, complicating their efforts to devise a standardized solution. Simultaneously, they were dealing with an ever-growing backlog and were determined to maintain their existing services without disruption. It was under these circumstances that they turned to VirtusLab for support.



VirtusLab consultancy services are what we were looking for to ensure our ideas and technology directions were valid. The work and knowledge provided by them significantly shorten the go-to-market time we expect for the next generation of our software.

Darryl Grauman

Director of R&D @ The Clinician



The solution

Working closely with our client, VirtusLab developed a solution and architecture based on the backlog of the current, operational system. This approach facilitates a seamless, incremental transition from the old system to the upgraded version without downtime.

We provided an adaptable NestJS microservices framework that accommodates various communication protocols, including REST and GraphQL. By employing GraphQL federation, we managed to route requests efficiently to the appropriate microservice. This infrastructure will allow The Clinician to adopt Web Sockets later, making sure the system stays in line with evolving market demands and client needs. This includes the operation on various cloud platforms or on-premises, ensuring compliance with eHealth regulations through a versatile code base.

The excellent collaboration between the client and VirtusLab allowed us to finish the project quicker than anticipated. Furthermore, we managed to include some additional features that the client had graded as "nice-to-have." Beyond this, we led workshops and shared knowledge to boost the skills of the client's engineering team.



★ The results

The architecture allowed for immediate business logic integration from day one, facilitating a seamless transition. The proof of concept also provided tangible outcomes that included:

- 1 Successfully built a **scalable and extendible microservices architecture**, facilitating a smooth migration from the old system without downtime.
- 2 Delivered a versatile **cloud-provider-agnostic solution** that works across different environments and meets various eHealth regulations.
- 3 **Optimized performance and bolstered security** by using actual metrics to tackle bottlenecks and implementing gRPC for robust service communication.
- 4 Fostered **ease of upkeep** with TypeScript and testing frameworks, creating a clear, self-explanatory codebase and easy to expand.

The tech stack

/ Languages:

- TypeScript

/ Tooling:

- NestJS
- gRPC
- Microservices
- Websockets
- REST
- GraphQL (Apollo Federation)
- NestJS GraphQL (Code First Schema)
- PostgreSQL
- k8s balancing
- Docker

TypeScript

nest

gRPC

GraphQL

PostgreSQL

kubernetes

docker



About VirtusLab

At VirtusLab, we aim to lead in software technology, working consistently to enhance efficiency. Our profound commitment to research and development and a dedicated focus on emerging trends and inspirations fuels an innovative culture. This ethos precisely guides advancing our cutting-edge solutions, inviting collaboration to expand the boundaries of software technology collectively. We welcome you to be a part of this transformative journey.

[Let's connect](#)

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