Deosi

CASE STUDY
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FEDERAL HEALTH · CONNECTED DIAGNOSTICS

OpenCDx: open-source connected diagnostics for the FDA

Deosi founder Ravi Singh was lead architect of OpenCDx, the FDA-funded open-source platform for connected diagnostics, and a Deosi team built its core services and reference implementation.

Client	SAFE Health Systems, funded by the U.S. Food and Drug Administration
Engaged through	Subcontractor to SAFE Health
Years	2023 – 2025
Practice areas	Architecture, healthcare interoperability, microservices, open source

01 OpenCDx connected diagnostics

Our role	Subcontractor to SAFE Health; Deosi founder as lead architect
Period of performance	2023 – 2025
Team	Lead architect plus three Deosi engineers

THE CHALLENGE

Results from home and point-of-care diagnostic tests rarely reach providers, EHRs or public health in a usable form. The FDA wanted open standards and a working reference implementation that any test maker or health system could adopt.

WHAT WE DELIVERED

- Lead architecture for the OpenCDx platform and its open standards.
- Java and Spring Boot microservices over gRPC: connected tests, identity and access, communications, questionnaires, classification and client libraries.
- Structured questionnaire intake and symptom classification designed to interoperate with FDA, CDC and CMS systems.
- The Connected Diagnostics Platform for at-home testing, remote patient monitoring and patient engagement.
- Interoperability using HL7 FHIR, LOINC, SNOMED CT, Analysis Normal Form (ANF) and Tinkar.
- Open-source release under Apache 2.0 (v1.0, April 2025), public at github.com/opencdx.

v1.0	**Apache 2.0**	**5**
Open-source release, April 2025	**Public at github.com/opencdx**	**Interoperability standards implemented**

RESULTS

- A working, open reference implementation of connected diagnostics for the FDA, released publicly.

- Diagnostic data normalized to FHIR and standard terminologies, ready for FDA, CDC and CMS systems.

TECHNOLOGY

Java, Spring Boot, gRPC microservices, React; HL7 FHIR, LOINC, SNOMED CT, ANF, Tinkar; zero-trust identity and access; DevOps; automated QA; Section 508.

METHODOLOGY

Agile, Scrum.

02 Learn more

- Source code and documentation: github.com/opencdx
- Contact: Ravi Singh, President · 571-482-0818 · info@deosi.com · www.deosi.com