# CHARLES TRINH

**Fractional CTO/CIO and Technology Architect — Healthcare Data, Identity & Regulated Infrastructure**
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## PROFILE

Healthcare technology architect working where federal regulation becomes production infrastructure. Built and operates a FHIR R4 clinical platform — SMART App Launch authorization server, patient and provider portals, and a SQLite clinical store — on a hardened single-host AWS estate of 67 public hostnames. The platform returned a self-test PASS on the ONC (g)(10) Standardized API test suite in April 2026, 317 of 317 subtests, publicly verifiable. Designed a consent architecture in which a permissioned ledger records patient grant, refusal and revocation as immutable events while all clinical data stays off-chain and encrypted per patient — no PHI on the ledger by design. Filed a proposed USCDI v7 data element with ONC on verifiable patient identity. Translates the Federal Register, HHS/CMS guidance and HITRUST requirements into architecture, controls and audit evidence.

## CORE COMPETENCIES

Healthcare interoperability (FHIR R4, X12 005010, HL7) · Identity and access management, including verifiable credentials and ledger-based consent architecture · Regulatory interpretation applied to infrastructure (Federal Register, HHS/CMS, SEC, FDA, HIPAA/HITECH, HITRUST, SOC 2, 21st Century Cures Act, Executive Orders) · Cloud infrastructure (AWS) · Technical architecture and systems integration · Vendor evaluation, sandbox validation and production readiness · Documentation, audit trails and change control.

## EXPERIENCE

**Consultant & Technology Architect — MyRxWallet North America Corporation**
Remote · 9/2026 – present

Consulting architecture for the corporation's clinical, identity and regulatory estate.

- Architected and operate the MyRx-EHR platform — FastAPI service layer, SQLite clinical store and nginx reverse proxy — on a single-host AWS estate serving 67 public hostnames.
- Delivered PASS on the ONC (g)(10) Standardized API test suite: 317 of 317 subtests, US Core 6.1.0 / USCDI v3, SMART App Launch 2.0.0 and Bulk Data 2.0.0, with results publicly verifiable at https://inferno.healthit.gov/suites/g10_certification/bXYNNCTTbCj
- Designed the consent architecture: a Hyperledger Fabric permissioned ledger records patient grant, refusal and revocation as immutable, auditable events while all clinical data remains off-chain and encrypted per patient. No PHI is written to the ledger by design, so ledger compromise is not a PHI breach.
- Delivered two production front ends from one API: a patient-facing EMR portal and a provider/clinician back end for practices, both live.
- Built the AI service layer — agent surfaces that read a page and render structured output directly into the user's application — plus an AI assistant at ai.myrxwallet.io and an agent-assisted customer support path.
- Authored the platform's 17-page HIPAA Security Risk Analysis under 45 CFR §164.308(a)(1)(ii)(A): twelve enumerated threats scored likelihood × impact, named owners, dated remediation, and a written incident response procedure with a worked precedent.
- Established transmission and token security: TLS 1.2/1.3 only, with SSL 3.0 and TLS 1.0 refused at the listener; OAuth 2.0 with PKCE, 60-minute access tokens and rotating, individually revocable refresh tokens.
- Completed payer and federal API onboarding: CMS Blue Button 2.0 integration, a VA Lighthouse sandbox application using the ACG consent model, and Patient Access API registrations at Anthem, UnitedHealthcare/Optum, Molina and Cerner.
- Built X12 005010 claims, remittance, eligibility and status pipelines, with 104 clearinghouse enrolments across 53 jurisdictions.
- Filed a proposed USCDI v7 data element with ONC — Patient Digital Identity Credential, Provenance data class, April 2026 — binding W3C DID and Verifiable Credentials to FHIR R4 Patient and Consent resources, with a published reference implementation. Publicly listed at isp.healthit.gov.
- Registered in SAM.gov: UEI MVKQW9DKKGB8, CAGE 20KM5, NPI 1194645564. AWS Business Associate Addendum active since 18 August 2026.
- Mergers and acquisitions: assisted MyRxWallet executives in the acquisition of a clinical therapeutics company, 400+ acres for a purpose-built hyperscale health data centre, a biobank and data-development company, a pharmaceutical company and several hospitals; negotiated with bankruptcy trustees for the acquisition of several health-related companies; assisted in drafting M&A agreements, due diligence and negotiations; broad experience in the going-public process, from selecting securities counsel, appointing a transfer agent and completing DTCC registration to choosing listing exchanges and capital markets.

**Technology Transformation Consultant — TRINH.IO**
Remote · 11/2025 – present

Independent architecture practice: healthcare interoperability, patient identity and regulated infrastructure.

- Healthcare interoperability: FHIR R4 and X12 005010 architecture, sandbox validation and payer onboarding for platforms that must satisfy ONC (g)(10) conformance.
- AI application design, build and deployment: agents and assistants that read a page and write structured output into the user's own application, behind a single gateway.
- Browser extension engineering: client-side capture and rendering into existing web applications, requiring no integration work from the customer.
- Identity and access management: patient, provider, payer and enterprise identity, including W3C verifiable credentials and ledger-based consent.
- Regulated infrastructure: HIPAA, SOC 2, Regulation A and HHS/CMS guidance translated into controls, architecture and audit evidence.
- SMS, VoIP and messaging systems: end-to-end build and operation, from number provisioning and carrier relationships through routing and delivery monitoring.

**Technology Architect — MyRxWallet DAO, LLC**
Remote · 2/2020 – 10/2025

Architect for the platform and its governance, directing delivery and operating the result in production.

- Architected an on-chain consent ledger recording patient grant, refusal and revocation as immutable, auditable history, with credentials issued as non-transferable tokens.
- Designed FHIR R4 patient access against CMS Blue Button 2.0 and VA Lighthouse, and X12 005010 eligibility and claims validated in payer sandboxes in both directions.
- Architected the patient wallet, the provider-facing system and the integrations with health systems and federal agencies.
- Built the AWS and self-hosted estate — compute, messaging, SMS, email, voice, hardened Linux and release gates — so that no critical function depends on a vendor that cannot be replaced.
- Built and operated a fleet of AI agents behind a single gateway, decommissioning the ones that stopped earning their place.

**Owner and Principal — Trinh (independent AV/IT integration company)**
1999 – 2020

- Owned and operated an audiovisual and IT integration business serving enterprise clients across hospitality, gaming, sports and consumer brands, including Cisco, Pepsi, Coca-Cola, MGM Resorts, Caesars Palace, The Venetian and Palazzo, Topgolf, Cirque du Soleil, Nellis and Creech Air Force Base and the Las Vegas Federal Courthouse.
- Met enterprise technology executives daily to capture requirements and convert them into application and dashboard designs, integrations and implementation plans.
- Designed server rooms and racks for hardware layout, power and cooling so that equipment fit the space and held its thermal envelope; specified low-voltage racks and integrated the entire technology stack under a single control system.
- Configured enterprise network infrastructure across LAN and VLAN segmentation, and designed, integrated and configured site-wide distributed audio, video, wireless and AV-over-IP systems, surveillance, access control and VoIP.
- Selected and deployed top-tier and mid-tier platforms — Fortinet, Palo Alto, Juniper, Barracuda, Cisco and Meraki — together with SIEM, VoIP design and integration, and physical and digital access control.

## SELECTED ENGINEERING SCALE

- Self-managed estate of 67 public hostnames, 51 serving, on one AWS account.
- FHIR R4 API with a SMART App Launch authorization server; patient and provider portals; an AI service layer; Hyperledger Fabric peer, orderer and certificate authority; IPFS; a 337-table SQLite clinical store.
- Two permissioned distributed ledgers in production, one operating a consent registry that records grant, refusal and revocation with no PHI on chain.
- X12 005010 pipelines across eight transaction sets.
- Designed, built, deployed and operated end to end by one person.

## CREDENTIALS AND STANDARDS WORK

- Inferno (g)(10) self-test PASS, 317 of 317 subtests, April 2026 — the ONC Standardized API test suite. Standards validated: US Core 6.1.0, USCDI v3, SMART App Launch 2.0.0 and Bulk Data 2.0.0. Public suite URL: https://inferno.healthit.gov/suites/g10_certification/bXYNNCTTbCj
- USCDI v7 public comment submission, April 2026 — proposed Patient Digital Identity Credential under the Provenance data class, listed publicly on the ONC Interoperability Standards Platform.
- AWS Business Associate Addendum, active 18 August 2026.