

PokitDok Leaps Over Legacy Healthtech Infrastructure



COMPANY

PokitDok

CO-FOUNDER & CTO

Ted Tanner Jr.

WEBSITE

pokitdok.com

For PokitDok, a consumer-driven healthcare experience is more than the holy grail of blockchain solutions. It's real and in hand.

It all started with a six-month struggle to address a spinal injury. Shopping for treatment options was laborious, and the underlying issue was medical data provenance. Fed up with inefficient healthcare communication systems and processes, PokitDok's co-founders drew from their combined experiences at Apple, Microsoft and a handful of startups to create a company to address the issues.

"We started with the fundamental tenet of 'shop, book and pay' for healthcare services, just like you buy things on Amazon," said Ted Tanner Jr., PokitDok's co-founder and chief technology officer.

That tenet involved connecting fragmented data silos with modern technology in new consumer-centric ways. Health systems, payers and technology companies were just beginning to explore the consumer-driven healthcare experience; PokitDok identified the issues early and set its sights on getting to solutions fast.

A Connected Healthcare Economy Driven by Blockchain Technology

"Since PokitDok's inception, we've always intended to run on top of distributed ledger technologies," Tanner said. "Timing is everything. So first we had to build out the necessary infrastructure and obtain industry-wide support."

Launched in Charleston, South Carolina, in 2011, PokitDok introduced a set of application programming interfaces (APIs) that span the healthcare value chain from patient identity management, eligibility checks and pharmacy benefits to appointment scheduling, claims submission and payment optimization. The company's APIs were

created to help developers at insurance companies, health systems and digital health companies create new apps or build upon existing business systems.

Today, businesses from small startups to large enterprises are using PokitDok's platform of solutions and APIs to bring new experiences to market. Customers can find patient insurance benefit information prior to service, learn in advance how much prescriptions will cost or find out whether a telemedicine visit is covered by their health plans. Using PokitDok, some health systems offer a web storefront to allow patients to book and pay for an appointment themselves prior to walking into an MRI facility, so they better understand their out-of-pocket costs and won't drown in paperwork the minute they check in.

"We now have over 94 percent coverage of lives in the U.S. via direct payer connections in addition to over hundreds of third-party applications built on top of our platform," Tanner said.

To make all this possible, PokitDok maintains trading partner relationships under Health Insurance Portability and

Accountability Act (HIPAA) Business Associate Agreements (BAA), connecting with more than 650 health insurers, pharmacy benefit managers (PBMs) and payers to enable seamless data exchange for identity verification, eligibility checks, pharmacy benefits, claims processing, authorizations and medical referrals. That healthcare business data is designed to be delivered in a format that can be securely accessed and read across different systems.

"The interest in blockchain technology has allowed us to efficiently evolve our APIs to smart contracts so customers can adopt all of the advantages of distributed ledger technologies," Tanner said. "Partners and customers, powered by PokitDok, are in a position to leapfrog existing legacy infrastructure, realize significant efficiency gains, lower operating costs and eventually uncover net-new market opportunities."

Bolstered by \$48 million in venture capital funding and a unique engineering team, PokitDok could change the dynamics of how healthcare systems and applications interact, igniting new frontiers of digital access and leading to better care experiences.



Enter DokChain, a Private, Permissioned Blockchain for Health
“We introduced DokChain behind closed doors at our first DokChain Alliance meeting in Redmond, Washington, in June 2016,” Tanner said.

PokitDok unveiled DokChain publicly for the first time at Health 2.0 in Silicon Valley a few months later. Since then, things have grown by leaps and bounds. A movement has started that involves more than 45 large entities from fintech, healthtech, insurtech and those in software development to more traditional hospitals, health systems, financial institutions and insurance companies.

“We’re building a private blockchain for healthcare, a distributed network of transaction processors operating on both financial and clinical data across the healthcare industry,” Tanner explained. “Our goal is to leverage blockchain technology across a broad range of industry participants to bring intelligent and dynamic automation to four core use cases that span healthcare encounters: identity, pre-authorization, claims adjudication and the supply chain.”

As an example, Tanner said that DokChain is designed to allow a health provider to identify “Jane Doe,” the consumer, by consensus and provide contextually relevant identity attribute validation. The contextual relevance is a function of “What You Do Is Who You Are.” Far beyond receiving a birth certificate, a nationally sponsored identification card and bank account, the DokChain network is being built to accurately identify Jane Doe based on her behavior via a myriad of data inputs from multiple identity providers. The DokChain is not plagued, the way traditional identity management solutions are, by relying on one database.

“This is an extremely powerful paradigm of the distributed network effect,” Tanner said. “It is a process that relies on the power and information of the network.”

Through DokChain, the blockchain delivers security, interoperability by design and network efficiency in one deployment model. Essentially, it’s a healthcare blockchain system designed to process transactions with the same efficiency of modern stock markets. From validating identity to clearing a medical claim, the process of active collaboration that DokChain facilitates will bend the healthcare cost curve down.



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Central to DokChain has been Intel technology and Hyperledger Sawtooth. Intel’s Software Guard Extensions (SGX) is technology for application developers like PokitDok seeking to protect select code and data from disclosure or modification. Intel SGX makes protection possible through the use of “enclaves,” which are protected areas of execution. Within these protected enclaves, Hyperledger Sawtooth’s unique consensus mechanism, Proof-of-Elapsed-Time, uses Intel SGX for an economical leader election process. Hyperledger Sawtooth also offers customizable transaction families, which enable PokitDok to create blockchain solutions tailored to the needs of the healthcare industry.

“DokChain is fundamental to the next computing cycle and will introduce new dimensions of computing power, accuracy, speed and security that is auditable,” Tanner said. “In the healthcare sector, protecting consumer data is paramount, as is sharply reducing blatant inefficiency. It is for this reason that we chose to work with Intel in terms of doing business on the blockchain.”

According to Tanner, choosing Intel and forming the broader Alliance around DokChain will alter the entire healthcare industry.

Back to the Future

Tanner added that part of his long-term mission is to play a leadership role in modernizing healthcare with blockchains, drawing from some of the best mathematicians, data scientists and computer scientists in the world at PokitDok. His background has seen him working with several disruptive industries over the years, including music, virtual reality, semantics and machine learning.

Health policy debates aside, Tanner believes that the healthtech industry is due for an overhaul. If healthcare wants to provide true transparency and modern commerce experiences, the sector’s future rests on blockchain technology. Clearly, with PokitDok’s leadership, there is room for even more evolution.