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## Time is Money: How Axuall is using Digital Credentials and Blockchain to build a worldwide network of proof.



**Charlie Lougheed**  
 Chief Executive Officer

**Axuall, Inc.**  
[www.axuall.com](http://www.axuall.com)

**Contact:**  
**Jeffrey Stern**  
 917-238-0020  
[Jeffrey.stern@axuall.com](mailto:Jeffrey.stern@axuall.com)

**Interview conducted by:**  
**Lynn Fosse, Senior Editor**  
 CEOCFO Magazine

**"Our focus from the very beginning has centered upon the premise that the verification of facts should not be as expensive and time-consuming as it is. These delays cost billions to the bottom line across many industries, particularly healthcare, while severely limiting innovation and topline growth. We are building a worldwide network and marketplace of proof to solve this."- Charlie Lougheed**

**CEOCFO: *Mr. Lougheed, what is the concept behind Axuall?***

**Mr. Lougheed:** Our focus from the very beginning has centered upon the premise that the verification of facts should not be as expensive and time-consuming as it is. These delays cost billions to the bottom line across many industries, particularly healthcare, while severely limiting innovation and topline growth. We are building a worldwide network and marketplace of proof to solve this.

If you look at today's models for verifying facts, they are outdated and not as secure as they should be. These models consume valuable human effort, limiting innovation and organizations' ability to deliver needed services. We see this as a big issue, especially in industries that are highly regulated.

Consider the \$20 billion problem in financial services where federal Know Your Customer (KYC) regulations require the verification of individual, corporate, and LLP (Limited Liability Partnership) financial components before an account can be opened. The challenge persists anywhere credentials are crucial for safety and compliance; across government, defense, aviation, transportation and energy. In healthcare, these inefficiencies burden our doctors with unnecessary paperwork, slow the advancement of new models of care, and cost billions in missed revenue to health systems.

**CEOCFO: *Why is it so cumbersome?***

**Mr. Lougheed:** Organizations that are regulated cannot simply take assertions at face value; they must verify those assertions with authorized third parties known as "primary sources". A great example of this is the arduous verification process of professional credentials. Within

healthcare, it can take 120 days or more to verify all the credentials of a physician.

A perfect storm is developing in healthcare where aging populations, combined with growing demand for digital delivery channels and increasing practitioner shortages, is changing the economics of the market – akin to the changes the financial services sector went through 25 years ago as its delivery channels began to expand beyond traditional brick and mortar.

We are seeing the old adage of “time is money” play out in healthcare. When the average physician can generate about \$7,500 a day in revenue for a health system, the impacts to organizations’ topline and bottom line become painfully apparent. This is a top priority for leadership of health systems.

**CEOCFO: *According to your site, Axuall created the Digital Network for Verified Facts. How does that work?***

**Mr. Loughheed:** We are developing a digital network and marketplace powered by a permissioned-public blockchain, digital wallet infrastructure, proof life cycle trackers, and primary source verification engines. The network binds credential issuers, credential holders and credential subscribers enabling self-sovereign, portable, and real-time issuing, management, and sharing of digital credentials.

Institutions can digitally issue and sign credentials one time -- eliminating reissuance, saving costs, yet still affording these primary sources fair compensation for their value through our payment engine. Practitioners can manage their digitally signed and up-to-date credentials using our smart wallet technology provisioning (or revoking) access to the healthcare organizations and payers that they work with. Healthcare organizations can leverage our credential subscription service to significantly streamline and accelerate their onboarding process for practitioners – all the while improving quality and ensuring adherence to national standards and operating by-laws. Because Axuall’s network continuously checks the primary sources for changes, expirations, revocations, and suspensions of credentials, organizations can now track and manage compliance and risk in real-time, rather than once every few years.

**CEOCFO: *Are all of the three stakeholders ready for a blockchain digital world, where your information is considered safe?***

**Mr. Loughheed:** If we do our job well, most end-users and stakeholders won’t know, or care, about the fact that blockchain is part of the architecture that powers the cryptographic signatures and digital ledgers. What stakeholders do care about is enhanced privacy, increased transparency, data ownership rights, cost savings, credential longevity, and saving time. Of course, their IT departments and auditors will, which is why we have invested so much into this technology and its capability to secure data. That said, research and our experience tell us that the market is not only ready, but demanding improvements to how personal credential data is protected and shared. The inefficiencies in this space have become unbearable for stakeholders all around. We have yet to meet a physician that hasn’t embraced the idea improving the

credentialing process. They chose healthcare as a career so they could practice medicine, not paperwork.

On the other hand, you have the credential issuers; medical schools for example. Today, they are forced to do a lot of repetitive work as well. They are asked over and over again to confirm the same information for the same person. Despite this consuming resources, time, and money they cannot spare, they seldom get any compensation for the effort. Axuall provides the smart payment models for them to be fairly paid for their value. We're not just creating a network; we're also enabling a marketplace to ensure that the entities that put forth the effort to produce value are compensated for it.

**CEOCFO: *How are you reaching out?***

**Mr. Lougheed:** We have begun to build our base by partnering with large US health systems. The top 100 health institutions in the U.S. employ about one-third of the physicians. These systems, given their size, have large scale motivators to reduce inefficiencies and grow their markets. By providing the Axuall Network as an employee benefit, these systems will help us grow and scale our end-user community. We have also begun to approach national associations of healthcare professionals that by themselves have the potential to open the market to us.

**CEOCFO: *How do you get a foot in the door as there are so many new ideas in every industry particularly health?***

**Mr. Lougheed:** I will say that I am taking a page from the playbook of my past business endeavors. My last company, Explorys was acquired by IBM in 2015 after becoming a market leader in healthcare big data analytics. There we focused on solving billion-dollar challenges to improve quality of care while providing large-scale data and insight into spending and outcomes for health systems and pharmaceutical companies.

Like Explorys, Axuall is also a transformative technology. We need to evangelize it to our customers' leadership. We also try to focus on the economics as a driver of decisions – following the money. Healthcare is a multi-trillion-dollar sector, and given that up to a third of every dollar spent is effectively wasted, there is a lot of opportunity. It hasn't been hard to get the attention of CEOs and CFOs who have mandates from their communities and boards to solve these challenges.

We also try to align ourselves with, rather than compete against, the incumbents and the innovative startups in the space. Our goal is to augment, not replace the HR-IT systems that many of our customers already deploy. This means, in many cases, our technology will operate far behind the scenes and integrate an enabling cloud network feeding information downstream; our intent is not to rip-and-replace.

We are also working closely with innovative upstarts in the space that seek to address the growing human capital problem in healthcare. One such example is Hyr Medical. Hyr is streamlining and democratizing the way practitioners freelance. This solves a big need in the market, particularly with health systems and hospitals that struggle to find qualified clinicians to take on "Locum Tenems" (Latin for "to hold the

place of, to substitute for.”) roles. Imagine a world where ordering a fully qualified and credentialed practitioner is as streamlined as ordering an Uber driver. Core to the success of these models is a safe and accurate credentialing network. We are excited to help support these innovations.

**CEO CFO: *How do you get enough people in each group, so the other two groups will pay attention?***

**Mr. Loughheed:** As the saying goes, nothing attracts a crowd like a crowd. Our network growth strategy involves innovative partnerships with large health systems and practitioner associations. A large health system can introduce us to thousands of end-users at a time. As our user population grows, so too does our network of verifiers, the entities that issue credentials. It will be important that we also develop effective compensation mechanisms to pay issuers for their efforts. This will be a big focus of our network development efforts.

**CEO CFO: *Axuall received a \$3 million funding recently. How will you be using the funds?***

**Mr. Loughheed:** Most of that newly raised capital is being spent on research and development. The rewards are high, but as you can expect, the burden of entry into this market is also high. The technology is far from trivial, and as such, requires a highly talented and experienced workforce of software engineers and security experts. Regulatory compliance is equally important - we must ensure we meet and exceed the requirements of industry standards, state, and federal regulations. Some of those funds are being used to engage renowned experts in privacy, policy, and law to make sure we deliver on that promise. Naturally, it will also take some time to learn, refine, and perfect our interfaces and workflows. This will also require capital to support multiple large-scale pilots with several U.S. health systems over the next year.

Lastly, part of these funds will be used to plan and design our modules for other sectors in addition to healthcare. Credentials present a similar billion-dollar challenge in several other areas including financial services, government, and transportation. Our vision has always included extensions into other markets in need of similar solutions.

**CEO CFO: *What if anything has changed from your original idea?***

**Mr. Loughheed:** Not a lot. We understood the severity of this problem, but we didn't expect this degree of positive reception to improving credentials. We suspect that the tight job market has something to do with that.

We also expected to see more old-guard resistance. In actuality, many career-long credentialers have expressed optimistic support for what we're building— largely because so many are overwhelmed with the growing scale of the problem - our mission resonates.

We have also seen more interest and optimism than expected from the standards bodies. They see this technology as a way to raise the bar for professional credentialing without requiring additional burden on the

health systems and practitioners. That's a win-win scenario that we are excited to see play out.

