SAI Industry Insights:

The Promise of Blockchains

By Priscilla Hanf, Vice President, SAI InfoComm LLC

Blockchain has been hailed as the next best technology after the Internet. But what is it really? What is it used for? Why should we care? In these few paragraphs we'll attempt to explain, in layman's terms, what blockchain is, how it works, and its huge potential as an underlying, enabling technology for many different purposes and industries.

What is Blockchain and how does it work?

Perhaps we should start with an example. Imagine a virtual banking ledger shared by a community – a database of sorts – that stores an ever-growing set of financial transactions. Identical copies of this ledger are stored on many computers in the network. Participants use this ledger to record and store transactions, for example, to send money to and from each other. They can do so privately and securely, with each transaction validated and approved. The resulting, updated database is immediately synchronized across each computer on the network. Transactions –the debits and credits in this example – are made in real time, and there is no middleman bank, clearing house or single central database.

Given this example, let's summarize the key tenants of blockchain:

- ✓ It's a virtual, **distributed "ledger" that is shared** across a network. There are (potentially) millions of synchronized copies, not just one. There is no single point of failure, thus removing the dependency on a single provider.
- ✓ It's **decentralized**. There is no middleman. No middleman means faster, **near real-time** transaction settlement. Think of the traditional financial clearing house example. It doesn't exist with blockchain – nor do middleman fees.
- ✓ Its contents are **immutable**, thus reducing or eliminating hacking and fraud. Transactions are **validated** using advanced cryptography methods, ensuring security and privacy.

Blockchain carries, stores, and manages transactions (in virtual "<u>blocks</u>") that are tied to each other (with virtual "<u>chains</u>"). This provides and enables transaction veracity, security, audit, and identification.

So, why all the hype? What is it used for?

Before we talk about the uses of blockchain, let's talk about what it ISN'T:

- It's **NOT** a solution in and of itself. Blockchain is a technology – and an enabler of any number of potential solutions
- It's **NOT** only used for financial applications.
- It's **NOT** bitcoin. Blockchain is the technology that enables bitcoin, a digital currency.
- There's **NOT** just one blockchain. Blockchains come in many flavors including public and private versions used for various purposes. Moreover, startups through large IT providers have begun to develop blockchain platforms to facilitate the building of applications for general and specific purposes.

How is blockchain used?

The potential of blockchain is compelling. There has been a great deal of activity in the venture capital market around blockchain and bitcoin. In fact, investors have deployed over $1.5 billion in startups in this area over the past four years alone.[1] And this doesn't include the investment and attention given by the world's financial institutions in their own capabilities and testing.

- **Finance:** Most notably, blockchain is the underlying technology for any number of financial transaction-oriented applications. Bitcoin, the digital currency, asset and payment system (and perhaps one of the most widely known applications of blockchain) is itself the basis of an ever-growing list of finance-focused solutions. Trading, currency exchange, payment and remittance applications – really any exchange of money – all are suitable blockchain-enabled solutions. Because of the nature of blockchain, transactions are secure, privacy is ensured, there is no single point of failure, and there is no expensive middleman to slow down the process. Imagine having your trade

settled immediately instead of waiting three days! Blockchain startups are the source of much "fintech" investment, experimentation, and proofs of concept by financial services firms such as

Santander, Reisebank, SBI Holdings and many more. Nasdaq's Linq is an example of a private blockchain-enabled application used to record private securities transactions.

- **Proof of "Ownership" or authorship applications:** Think of how this secure, shared and unchangeable ledger could be used to record and validate ownership of assets - like real estate, property titles, or patents.
- **Contracts:** Blockchain is a perfect application for "smart" contracts – for example, allowing an instant payment once goods are received on a loading dock --- no paperwork, no middleman.
- **Voting:** The secure audit trail and immutable aspects of blockchain technology would allow for secure and accurate vote tallies. No more chads!
- **Collaborative transport.** Many of us have used Uber and similar apps. Blockchain stands to disrupt this market by securely connecting the rider and driver without a middleman.
- **The list goes on...** Blockchain technology is being developed for use with IoT or the Internet of Things, where historical information collected from sensors can be analyzed across individual devices and leveraged for real-time decision-making. Blockchain can also be applied to other "problems" including insurance claims, healthcare data, supply chain tracking, and much more.

While there is much to be said about blockchain and its applications, the larger picture points to the application of a technology that is still relatively immature. Imagine the possibilities … we're just at the beginning! What is your company doing with blockchain? What are your competitors doing with blockchain? SAI presents this content as Food for Thought, and understand that this is a high level view. We hope you've found this industry insight of interest, and we look forward to providing more Food for Thought on other topics in the near future.

SAI, an international business consulting firm, has supported its clients for over 35 years with business intelligence services globally across all industries providing insight and decision support. Founded in 1977, SAI is a knowledge-led international firm with over 375 employees in 13 operations worldwide.

Priscilla Hanf is a Vice President of SAI InfoComm LLC, a global business consulting firm specializing in planning and strategy development for high-technology companies in the information technology, telecommunications and electronics industries.

Your Strategic Partner

Explore your growth options, address challenges within your industry, analyze investment and acquisition strategies and make better corporate decisions with the confidence and clarity that SAI can provide.

Contact SAI at knowledge@strategicanalysis.com or 610.320.6100