

CIO Alliances

Preparing for Restructure: Blockchain and Southern Africa CIOs

Is Blockchain the most important emerging technology for the enterprise and therefore the CIO?

Peter Munnings

Put it in perspective





CONSENSYS

Who is ConsenSys?

- The mission of ConsenSys is to create simplified and automated decentralized applications (dApps) to facilitate peer-to-peer transactions and exchanges
- Consensus is the largest blockchain startup in the world with over 150 people located in 17 countries
- We consult and deliver production-ready blockchain solutions for the enterprise market
- Joseph Lubin – founder, also co-founded Ethereum
- Bitcoin \$17 bn, Ethereum \$4.6 bn

History of the Database and Network

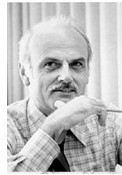
Blockchain is the natural next progression in database and networking technology

Paper & Mainframes 1950's



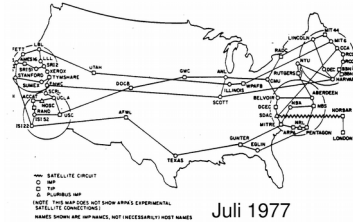
Data is
Recordable
Mainframe computing opened the doors for the recording and use of mass quantities of data in a digital fashion.

SQL Database 1970's



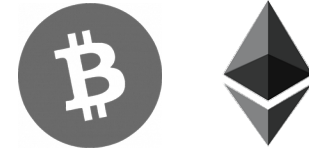
Data is
Searchable
With the invention of SQL information became more searchable, thereby making it more accessible and user friendly.

Networks / Internet 1990's



Data is
Distributable
The explosive growth of the internet has helped us distribute information and content all over the world

Blockchain Today



Data is
Shareable
Blockchain shifts the paradigm of computing, allowing us to transfer value and run applications on a shared platform.

How will blockchain technology, like mainframe, SQL, and the internet before it, revolutionize how we consume and use information?

Blockchain - A Trust Framework

Blockchain provides a trust framework that allows systems to be developed for actors to interact reliably and securely

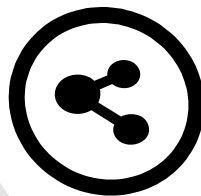
CRYPTOGRAPHICALLY SECURE

Uses tried and true public/ private signature technology. Blockchain applies this technology to create transactions that are impervious to fraud and establishes a shared truth.



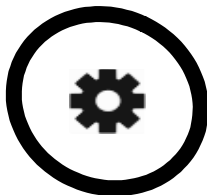
DECENTRALIZED

There are many replicas of the blockchain database and no one participant owns nor can tamper with it. Consensus among majority participants is needed to update the database.



SMART CONTRACT

The Ethereum blockchain can store both data and Smart Contract (“Business Logic”) in the blockchain.



IMMUTABLE LEDGER

Blockchain is a write-once database, so it records an immutable record of every transaction that has occurred since its inception.



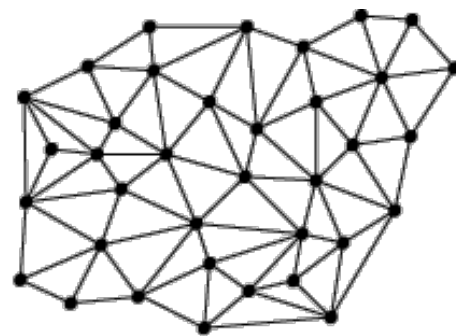
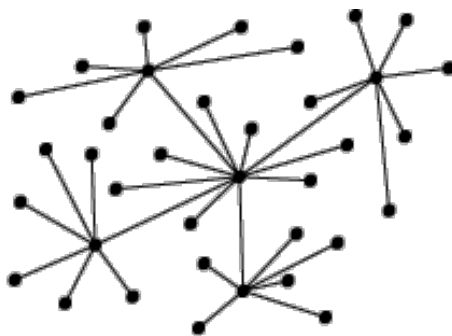
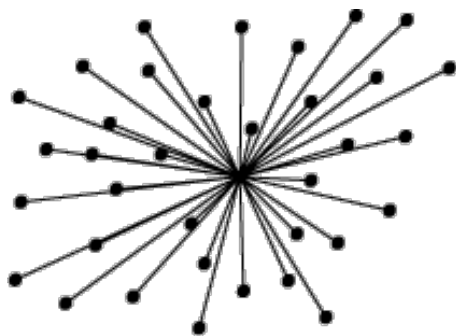
The History of networking

There are many parallels

- Late 1960's – packet switching
- ARPANET created in 1969 – based on packet switching
- 1972 – International Network Working Group chaired by Vint Cerf
- 1975 – INWG submitted a proposal to International Telegraph and Telephone Consultative Committee. The committee, dominated by telecom engineers, rejected the proposal as **too risky and untested**
- 1975 – Vint Cerf leaves INWG and joins Bob Kahn at ARPA. They create TCP/IP
- 1980's Open Standards Initiative (OSI) formed from the remaining INWG members
- 1990's OSI stalling. Einar Stefferud, "OSI is a beautiful dream, and TCP/IP is living it"
- Marc Levilion, IBM France "On one side you have something that's free, available, you just have to load it. And on the other side, you have something which is much more architected, much more complete, much more elaborate, but it is expensive. If you are a director of computation in a company, what do you choose?"

History repeats itself, it has to, no one listens

Laurence Peter (author of the Peter Principle)



_____ A move toward a distributed model is a move _____
toward

Scalability

Resilience

Efficiency

**Cost
Reduction**

Stability

Reliability

What is happening in this space?

SA Financial Blockchain Working Group

INNOVATION

Innovation

In the ledger we trust

South African banks are dabbling with blockchain and distributed ledgers, learning some important lessons along the way.

MATTHEW BURBIDGE

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(Left to right) Waseem Hassim, Nedbank, Tanya Knowles, Fractal Solutions, Farzam Ehsani, RMB (Karolina Komendera)

The adoption of blockchain is a fraught one, perhaps because we've been down a similar road before.

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CIO DIRECTORY 2016

The definitive guide to South Africa's leading technology decision-makers, the **CIO Directory** recognises the achievements of local CIOs and provides an insight into what's top of mind and their strategic 'to do' lists.

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What's happening in this space

Making Dubai the first blockchain-powered government in the world by 2020



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