STANDARDS Australia

Blockchain & Electronic Distributed Ledger Technologies

New Field of Technical Activity

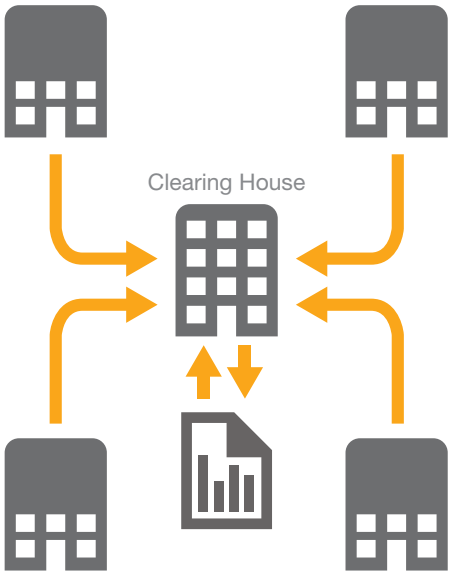
Blockchain – What is it?

Blockchain, at the broadest level, is a digital platform that records and verifies transactions in a public and secure manner. This decentralised, cryptography-based solution has the potential to redefine transactions and the back-office of a multitude of different industries. It will remove the need for third-party 'middlemen' in many transactions.

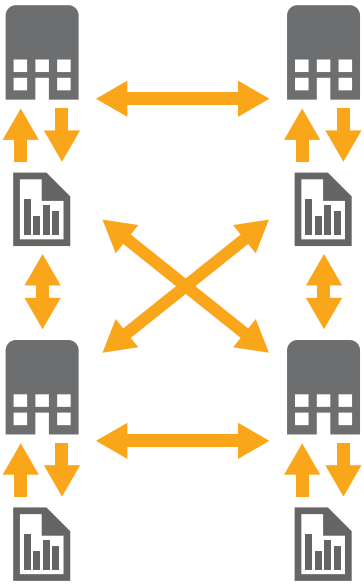
In practice, this means that once a transaction has been initiated, the transaction record is simultaneously available to all parties and historical data cannot be altered without broad agreement from the participants of the network. This removes the costly and time consuming process for the need to reconcile transactions or data externally.

From banking, insurance and other industries, distributed shared ledgers have the potential to make interactions more efficient, less expensive and safer.

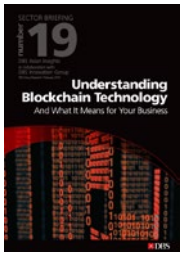
How blockchains, with a distributed database, eliminate the need for third parties among entities



Centralised Database



Distributed Database



Above: Adapted from *Understanding Blockchain Technology And What It Means for Your Business,* DBS Group Research, February 2016

Why is Blockchain important?

Like mainframe computers, PCs, the internet, smart phones and cloud computing before it, blockchain technology will be transformational.

Blockchain has the potential to support efficient and secure real time transactions across a large number of sectors, including:

- financial services;
- consumer products and services;
- health;
- government;
- minerals and precious stones;
- real estate;
- internet of things; and
- business and SMEs.

The United Kingdom Government commissioned a report titled *Distributed Ledger Technology: beyond block chain*, led by the Government Chief Adviser, Government Office for Science. This 2016 report recommended a broad UK government effort to explore and test blockchain and distributed ledger technology.

The report concluded that across the government sector alone, blockchain has the potential to improve the speed and efficiency in such diverse areas as: voting (local, state and national elections); registration, transfer and management of property titles; passports and ID; industry licenses; vehicle licenses; and medical registrations and health records.

Governments across Europe, the Americas, Singapore and Australia are similarly exploring the potential of blockchain technology.

What are the challenges?

As with any new and emerging technology there is an immediate need to weigh up the issues, challenges and opportunities.

Blockchain creates new business and delivery models which may require changes to policy and regulations.

But this is only part of the solution. Blockchain needs international standards that are compatible with regulations and controls in financial systems to ensure market confidence and consistency in the use of this technology.

There needs to be a better way of building and using blockchain applications.

Clear guidelines for building blockchain applications, as well as relevant privacy and security measures will ensure the spread and benefits realisation of this technology.

Interoperability between different blockchains will facilitate competition and support innovation, particularly for SMEs.

Why do we need Blockchain standards?

Ensuring that this new and emergent technology will benefit governments, industry and consumers requires an open and transparent standards process. Wide stakeholder involvement is critical to establishing a level playing field where protocols and standards can be developed to encourage competition, support innovation and reduce barriers to trade. We are already seeing a proliferation of blockchains such as Ripple, Ethereum and NXT. Without international standards and supporting protocols the broad adoption and use of this technology will not be possible. Blockchain is still an emerging technology and issues such as data sovereignty, privacy, and lack of consensus are causing headaches for policy makers, regulators and industry alike. Notwithstanding, Australian stakeholders and government want this technology to be sustainable in the long-term. ISO and its members have an important role to play in making this a reality.

The proposed international standards for blockchain will focus on technical solutions that promote interoperability, and compatibility between existing systems. This will allow the technology to be more widely used and deployed.

The work will exclude legal obligations and regulatory matters addressed by government jurisdictions.

The proposed work program will see the development of International Blockchain standards covering key technical aspects: terminology; process and method; IT privacy; cyber security; interoperability; and other key technical aspects of blockchain.

The path forward – Next steps

ISO has the opportunity to take the global lead in this emerging area of standards development similar to the approach previously taken in standardising banking messages. As noted earlier, the timely participation of ISO members in developing blockchain standards is critical to ensure a level playing field. Strong industry support, especially from global players, is essential for the success of this New Field of Technical Activity within ISO.

The multi-sector application of this technology requires experts from a range of disciplines and industries to contribute to the new standards. Given the strategic importance and wide application of this technology, Standards Australia proposes that work be undertaken by a new ISO TC. We note that the proposal is subject to consideration by ISO Technical Management Board.

We ask all National Standards Bodies and members of ISO to actively consult with a range of stakeholder groups within their countries for support and active participation for blockchain standards development. Standards Australia looks forward to working with you on this exciting international standards initiative.

Further details

Varant Meguerditchian
Senior Manager
Stakeholder Engagement & Public Affairs
Standards Australia
T +61 2 9237 6119
E varant.meguerditchian@standards.org.au

STANDARDS Australia