Blockchain: Enabling Networks of Trust

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Blockchain is here, now.

Over a decade ago, cloud applications emerged, fundamentally reshaping the enterprise technology landscape and accelerating business efficiency. Today, blockchain holds the same promise. Blockchain technology can enhance trust for a variety of applications—from managing a global supply chain to digitizing individual identity. This whitepaper explores the key components of blockchain technology, where it can solve a problem, and the Workday approach.

What is blockchain?

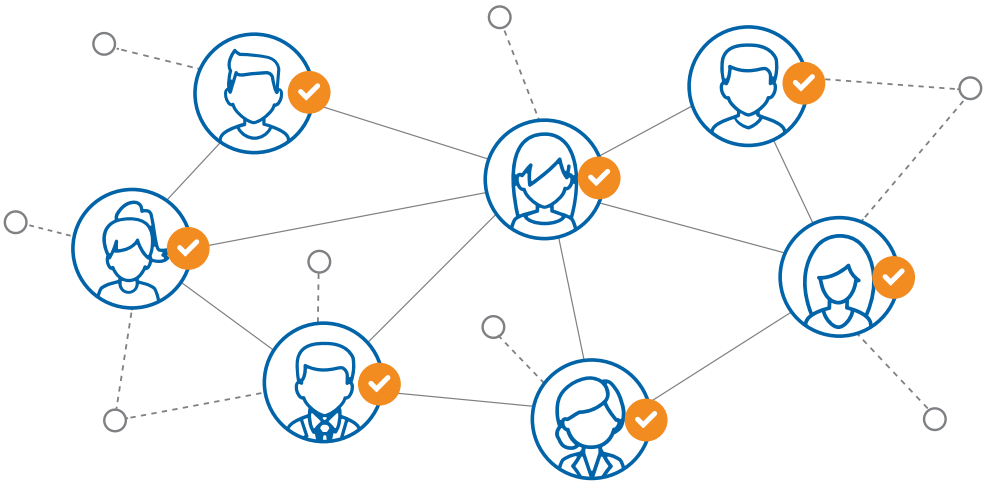
Blockchain was popularized broadly after the dramatic rise in bitcoin from $1 in 2010, to $20,000 in 2017. However, blockchain technology enables much more than cryptocurrency and can power a myriad of applications that require trust.

Simply put, the core idea of blockchain is to enhance trust by getting the participants in the network to agree about the transactions that have taken place.

So, how does blockchain technology enable trust-based applications? Let's look at three key attributes.

1. **Consensus** by the participants in the blockchain network is required before any new transactions can be added to the blockchain. This means that the participants agree that new transactions are trustworthy and that all participants are seeing the same data.
2. **Cryptographic** data integrity facilitates enhanced security; in simpler terms, tampering with existing transactions in the blockchain network would be detected by the other participants in the network. This provides immediate visibility into potential security incidents.
3. **Transparency** of transaction records in the blockchain network means that authorized participants can independently audit the transaction records at any time. The blockchain network can act as a trusted third party, similar to an escrow.

Participants in the blockchain network must agree before any new transactions can be added to the blockchain.



Trust-based applications.

Workday believes that blockchain technology will fundamentally change how trust-based applications and processes are designed and managed. While organizations are still in the early days of blockchain-based application development, blockchain technology is emerging as a promising building block for a number of business applications.

Global supply chain.

Today, supply chains are driven by manual processes and legacy data systems that reduce efficiency and increase risk. Using blockchain technology to power and digitize a global supply chain reduces paperwork, improves auditability, and ensures that shipping data is trustworthy at each step in the supply chain.

Blockchain networks can act as a trusted third party, enhancing the relationship between the buyer and seller throughout the entire supply chain journey. Once the buyer and seller agree to a business transaction, it is recorded in the blockchain network. With data transparency in a blockchain network, you can track goods as they move through the supply chain, and programmatically verify that your invoice matches the delivery at each step. With cryptographic data integrity, the buyer and seller are seeing the same transaction data, and you can confidently hold sub-vendors accountable on each leg of the journey.

For example, TradeLens, jointly developed between IBM and Maersk, applies blockchain technology to the supply chain. With the data transparency enabled in a blockchain network, it is able to improve trackability of documents and shipments.

Real-time financial transactions.

In existing financial transaction models, payment processing can be expensive and settlement can be slow. Clearinghouses often act as the intermediary between payment parties, collecting a fee for their services and adding time to the transaction. Because a blockchain network can act as a trusted third party, financial firms can build a network of trusted partners without a clearinghouse, enabling faster payment processing and reducing cost.

Digital credentialing.

Individuals today are often asked to prove who they are and what they can do. For example, we still provide physical documents, such as a passport or resume. Using blockchain technology, all of this can be transformed into a trusted digital credential. Because a blockchain network can act as a trusted third party, credentials can be immediately verified as both belonging to an individual and coming from a trusted issuer. And because data integrity is cryptographically ensured, you can be confident that a credential has not been modified.

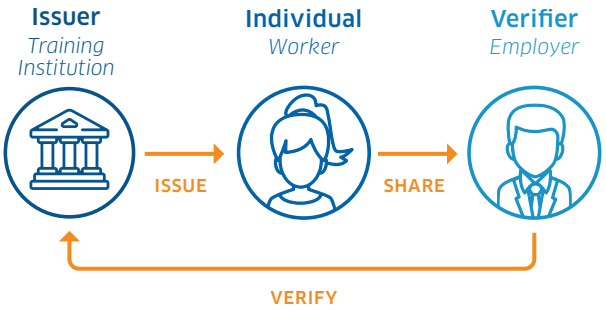
Workday is applying blockchain technology to digital credentialing to build a network for trusted and verified credentials.

Workday Credentials and WayTo™ by Workday.

So, how do we use blockchain to enable Workday Credentials and WayTo by Workday? Let's look at an example of a gig worker completing a compliance training, and then sharing the certification of completion with an employer to verify they have the correct work credentials.

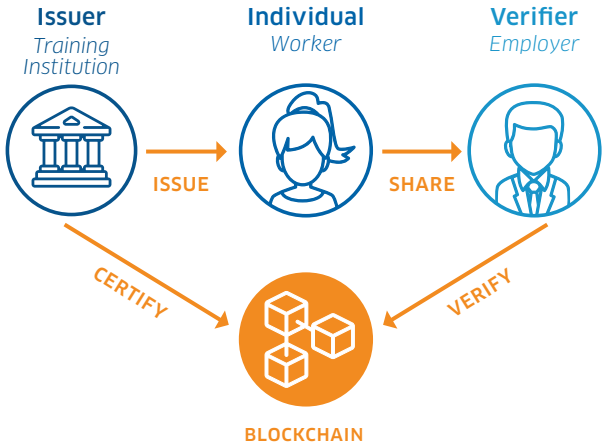
In legacy models, when an individual shares proof of compliance training with an employer, the employer needs to verify that the certification is authentic—that it comes from the correct training institution, has not been modified, and actually belongs to the individual. This is a costly and time-consuming process, both for the employer and the training institution. This pain is even more pronounced for gig workers that have to frequently go through this process.

In legacy models, an employer must verify the certificate with the training institution.



Using Workday Credentials, a training institution can issue a private digital certification, visible only to the individual and those with whom they share it. When an individual shares this certification with an employer using WayTo by Workday, the employer can directly and immediately verify that the certification is authentic. Because a blockchain network can act as a trusted third party, Workday Credentials can facilitate verification that the certification is valid. And with cryptographic data integrity, you can be confident the certification was not modified. The trust enabled by blockchain technology allows the process of certification verification to be automated, reducing costs and saving time.

With Workday Credentials, a blockchain network can act as a trusted third party, enabling an employer to directly and immediately verify the certificate.



Blockchain-based credential issuance, management, sharing, and verification can help create efficiencies and cost savings in a variety of applications—from the compliance training of a gig worker in the above example, to opening new opportunities for workers with verified skills and certifications.

Learn more about how Workday is building the most advanced network for verified credentials.

About Workday.

Workday is a leading provider of enterprise cloud applications for finance and human resources. Founded in 2005, Workday delivers financial management, human capital management, planning, and analytics applications designed for the world's largest companies, educational institutions, and government agencies. Organizations ranging from medium-sized businesses to *Fortune* 50 enterprises have selected Workday.

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