BOARDWALKTECH
Enterprise.Blockchain.

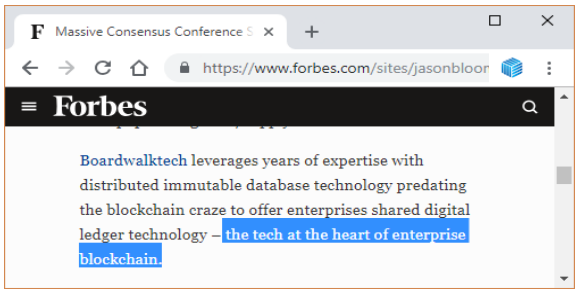
# The Digital Enterprise Transformation

## *Are You Ready For Blockchain?*


Boardwalktech Inc.

10050 North Wolfe Rd.
Cupertino, CA 95135

Phone: 650-618-6100
Email: info@boardwalktech.com

BOARDWALKTECH
Enterprise.Blockchain.

## Blockchain Has Arrived

Many believe that blockchain technology "is the answer to the digital transformation question" and that it will disrupt businesses in ways that we've only begun to imagine. This is both a problem and an opportunity. Just as networking, communications, and businesses were fundamentally altered by the internet, blockchain is projected to become the data protocol for multi-party exchanges of data. The potential benefits of leveraging trusted blockchain networks for business are far reaching. It isn't a question of whether digital transformation through blockchain will deliver competitive advantage, it's a question of how, and when. Will it be your company or your competitors?

And the interest in Blockchain is accelerating.

*In PwC's 2018 survey of 600 executives from 15 territories, 84% say their organizations have at least some involvement with blockchain technology*

While that's encouraging, many enterprises today are stuck at the "how" stage in their efforts to leverage blockchain technology for their multi-party applications. There are a number of barriers:

- All parties must invest in a blockchain service of some kind to participate—they may not want to, nor be incented to. Without a consortium, there is no value.
- Connecting to blockchain is the tip of the iceberg. Leveraging legacy application environments, integrating with existing enterprise systems, and aligning data is critical and difficult to achieve.
- Writing an application for blockchain is typically a tedious, laborious process of having to define all the layers of the software in an arcane language – very difficult and time consuming to build and change.
- Outside of financial services and their relatively simple transaction environments, blockchain use cases in the enterprise have largely stalled at the pilot stage due to cost, performance, and scalability issues.

Plus, today's enterprise is largely unprepared to adopt blockchain. In the shrinking world of globalization, what previously were relatively infrequent exchanges between parties have become incessant and crucial. Unfortunately, this is also the area of the enterprise where the greatest gap exists between what is needed and the current enterprise system landscape to support it. Many enterprises are struggling to adapt their legacy, centrally-focused, and siloed IT environments to this new distributed world.

But this is a huge opportunity for the enterprise – to leverage these new tools and through digital transformation to create a sustained competitive advantage in the market.

> "Blockchain is nothing less than the second generation of the Internet. It will change every institution, in some ways more that the first generation did"
> McKinsey & Company May 2017 Report

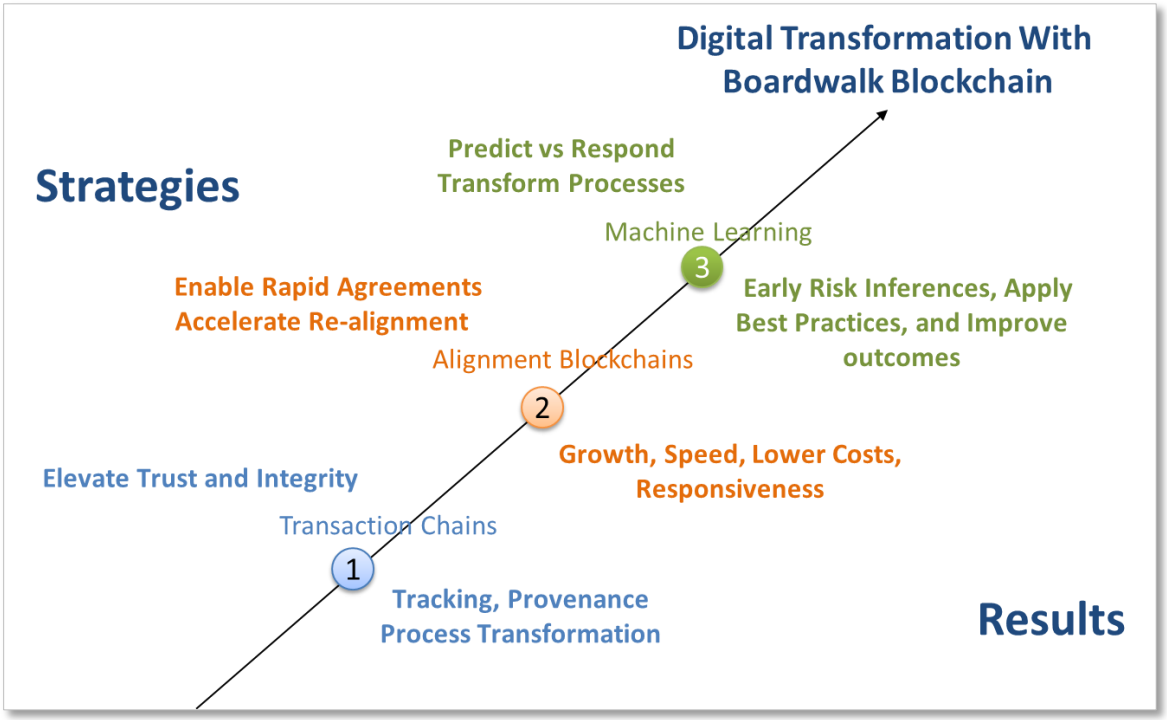
## Digital Transformation with Boardwalktech

Boardwalktech has been building collaborative, enterprise applications on its patented digital ledger technology for over 10 years for companies including Coca-Cola, Vineyard Vines, PricewaterhouseCoopers, Rockwell Automation, AON and many others. It is publicly traded on the Toronto Stock Exchange (BWLK).

Boardwalktech's IP developed in 2004 is what sets it apart. The core technology is a transaction chaining technology, patented in 2008, that manages information in a new way, and at a level of granularity that surpasses existing SQL or NoSQL approaches.

The data granularity and transaction chaining matters for several reasons:

- **Trust** - Boardwalktech establishes blockchain trust using transaction chaining and virtual machines instead of using artifacts invented to support digital currency transactions. This means you can establish trusted information exchange with your partners without requiring them to sign up for blockchain.
- **Alignment** - Transaction chaining with granular data provides a new level of collaboration and visibility for multi-party participants that drive rapid alignment and re-alignment of processes. This is one of the greatest costs hitting the enterprise – especially in supply chain. Being out of alignment with my partners means longer lead times, unmanaged inventory levels, stock outs, and a myriad of other downstream reconciliation problems hitting the bottom line.
- **Learning** - Transaction chaining also drives increased learning. In traditional blockchain, the focus is on final transactions – think I gave John $200. But in the enterprise, in a world of complex interactions and multi-step transactions, final transactions aren't enough. If you have all of the transactions captured and chained, and an atomic level of granularity, then you can begin to unravel this vast treasure trove of work-in-process information that today is locked up in manual files and emails. Move towards inference and prediction, and away from reaction.

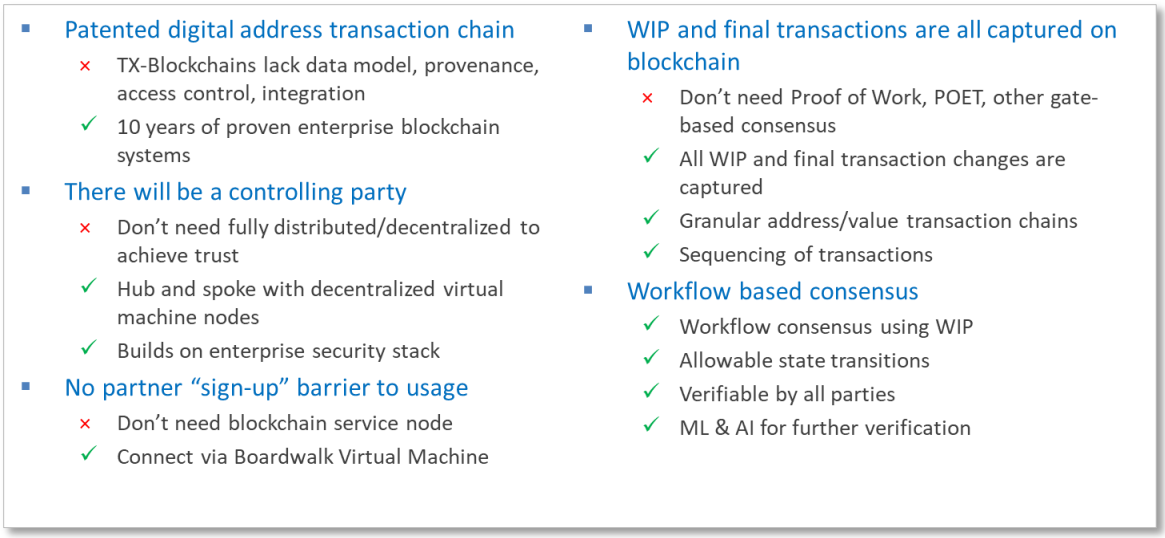



Other blockchain approaches require an extensive, tedious development effort– the end result being a custom application which does not provide the force multiplier effect companies can experience with this transformative new technology. Boardwalktech has taken its years of experience with a patented digital ledger technology and delivered a platform for blockchain applications which can enable a fully digital enterprise transformation. For our customers, digital transformation and blockchain go hand-in-hand.

BOARDWALKTECH
Enterprise.Blockchain.

## Boardwalk Enterprise Blockchain

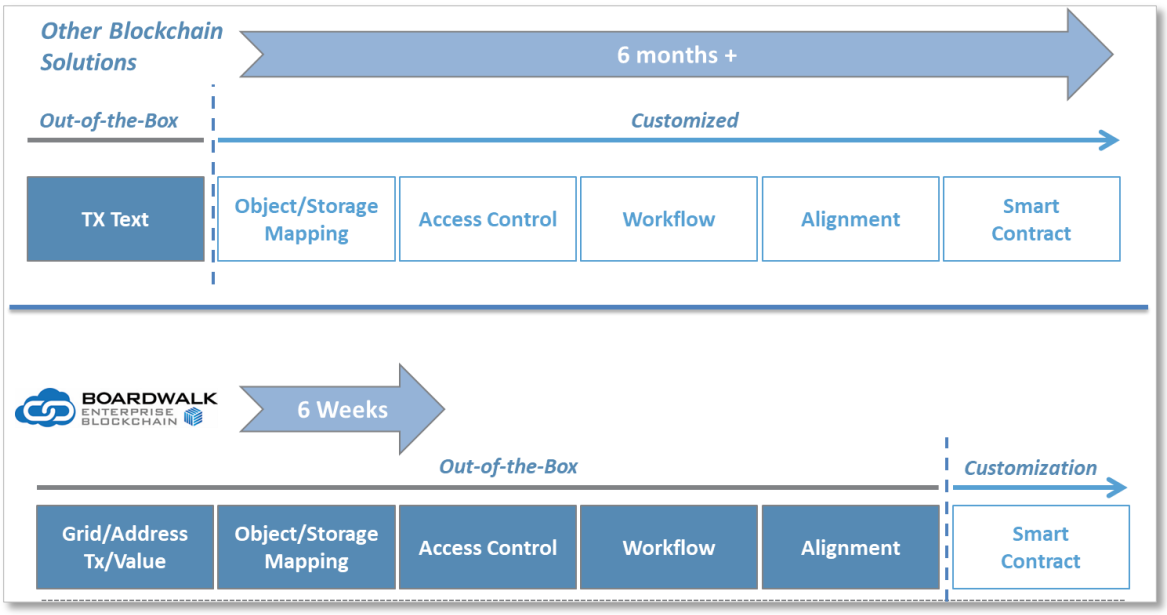
Boardwalktech's approach to delivering the Boardwalk Enterprise Blockchain service is summaried here:




- A focus on private, permissioned blockchain environments with a trusted party or controlling entity who manages the network. Most large enterprises want to control the data, security, and environment shared between participants both within and between enterprises. Besides, for many enterprise use cases, the parties are known and semi-trusted, and there is an intention to continue doing business together. Boardwalktech leverages current security and trust factors in place and builds on that with its transaction chaining technology.
- Boardwalk enables participation in the blockchain through a virtual machine that is easily launched on the desktop or mobile device for each participant. The virtual machine provides interaction with the ledger under the access control and security constraints of the network.
- An ability to integrate and assimilate existing processes and legacy apps, tying them into the blockchain. Rather than attempt to build a blockchain app from "the outside in" as you might do with open source solutions, with Boardwalk you can rapidly turn a manually run, multi-party information exchange into an integrated blockchain application from the "inside out."
- Using Boardwalk over alternatives significantly reduces the cost of application design, cost of deployment, cost of change management and cost of participant onboarding - not to mention the cost of failed application deployments due to user resistance.

The Boardwalk Enterprise Blockchain service includes the following capabilities:

- Immutable, chained, and hashed transactions – all updates to the shared digital ledger are captured on a net change basis, versioned, and recorded with a date timestamp and are linked in a transaction chain with immutable transaction IDs. All transaction update changes are hashed providing verifiability to all network participants.
- Boardwalk Enterprise Blockchain provides an out-of-the-box application builder and smart contract designer framework for configuring blockchain applications very rapidly – 6 weeks versus 6 months+ for alternatives.




- Workflow based consensus with the rules defined by the controlling party for and with the participants. There is no need for proof of work, or proof of elapsed time in a Boardwalk permissioned blockchain network. This consensus mechanism identifies which hashed transactions are significant to the parties based on work-in-process (WIP) and consensus data lifecycle rules.
- Provenance of decisions are captured – both WIP and final agreements – and this is especially unique to Boardwalk. Typically, with other approaches, final transactions are entered into the blockchain and all the processes and interactions that come before that final transaction are generally disconnected. With Boardwalk, all the interactions and WIP decisions, as well as the final transactions representing final agreements, are captured in blockchain. This is the glue that ties blockchain to the existing applications and data sources in the enterprise. This is the key to aligning systems, people and processes and quickly re-aligning in response to process changes.
- With a access to time-based, chained transactions, inferences can be derived from the data using machine learning which can be used in line, to drive course corrections within operational processes – thereby continually improving the application and business processes.

With these capabilities, Boardwalk Enterprise Blockchain combines the elevated trust and security of blockchain with the digital transformation of multi-party information exchanges. Through Boardwalktech's patented transaction chaining technology, enterprises will realize improved efficiency and alignment of data and process for multi-party information exchanges, reduced business risk, and enhanced learning. These benefits will result in freed up capital and improved cash flow, as well as stronger relationships with all trading partners.

## An On-Ramp to Blockchain for the Enterprise

With Boardwalk Enterprise Blockchain, new applications will be thinner and more distributed; data won't be locked up in large enterprise systems, but instead, will be distributed and shared through the digital ledger with new protocols for exchanging information. From the inside out, delivering rapid value and ROI, Boardwalktech is delivering on the digital transformation promise with Boardwalk Enterprise Blockchain.