



Devvio

THE Enterprise Blockchain

<https://devv.io>

“Blockchain For Business”

Forbes

Devvio IoT OS

KEY FEATURES

With Devvio every IoT device has its own identity, and messages in and out of every device can be cryptographically secured.

Devvio’s decentralized networks of nodes process every transaction providing high security and robustness.

Devvio’s throughput can support tens of millions of transactions per second.

Devvio provides a cost-effective solution even at scale.

Devvio can maintain both short-term and long-term storage for an immutable record of transactions.

Devvio’s green solution removes the energy waste of other solutions.

The costs and risks of potential downtime are minimized.

Devvio is able to integrate private and public blockchains.

Devvio provides a backbone for IoT communications and security, where every device has its own identity, enabling authentication, resiliency, the reliability of information, and surety of access to communication networks and digitized assets.

Devvio – Enabling the IoT – Blockchain Convergence

The paramount technical challenge facing Blockchain technology and IoT convergence is the ability to scale to meet service and security requirements across a dynamic network of devices and do so at an effective price point. Security is an enormous challenge for IoT applications, and a blockchain solution that operates cost-effectively at scale can address this challenge. These requirements are foundational to running IoT in mission-critical, high-risk and high data volume (sometimes low-bandwidth) environments, such as healthcare, energy, transportation and beyond. Even for mass market and consumer applications, security is a critical component to the future of IoT. Devvio has solved the sharding problem enabling horizontal scaling and a solution for IoT scaling challenges.

The Devv Blockchain was built from scratch by fundamentally designing a protocol to solve not only current scaling problems but also to establish a system that can scale with future needs. The key enabling element is the patented ability to implement, manage and scale independent shards that allow parallel processing of blockchain transactions.

Devvio is able to implement permissioning and data access across multiple private and public networks, called shards.

Devvio is able to integrate with other databases and other blockchains, providing ease of onboarding and integration.

Devvio enables multiparty integration with incumbent systems.

Devvio manages security and granular permission settings across parties.

Devvio provides a backbone for designing and implementing shared operational and technical frameworks.

Devvio implements shared frameworks that adhere to regulatory requirements.

Devvio's solution allows privacy to protect an enterprise's private data.

KEY BUSINESS BENEFITS

Devvio can extend a best-in-class Security overlay for all extended solutions encompassed in IoT and Communications Networks including Financial Services, Payments, Compliance, Identity, Mobility and Supply Chain.

Devvio is able to support greater control, granularity and trust to data and asset sharing. This will represent a core catalyst for Communications and IoT business models involving broader ecosystems and will solve some of the most pressing issues for the future of Communications and IoT networks.

Devvio Best-in-Class IoT Security

A significant challenge in the entire IoT space is security - there are large security holes right now in many IoT implementations. Devvio's IoT platform delivers best in class security benefits, solving the major problems facing cybersecurity professionals today, and does so with the scalability and cost-effectiveness needed in IoT applications. For over three decades, Byzantine fault tolerance (BFT) has become the gold standard for security in distributed systems. As the name suggests, Byzantine fault tolerance means that a system can tolerate (i.e. still achieve consensus in the presence of) Byzantine faults – the category of faults where nodes may be malicious. In effect, this means that there is no central point of failure, and even if a number of servers in a network are compromised, the system as a whole maintains its integrity and security. Devvio enables the deployment of a Byzantine Fault Tolerant security backbone across the entire communications and IoT network providing security solutions that enable identity, authentication, resiliency, the reliability of information, and surety of access to communication networks and digitized assets.

With Devvio's highly scalable and inexpensive solution, the innate security and immutability of blockchain, for the first time, can now be applied to IoT to provide security. Enterprises must protect their data, contracts, files, devices and networks, but also maintain privacy, authenticate identity, prevent theft/spoofing, and develop governance for IoT device control and coordination. These requirements are necessary whether in a large-scale factory environment, a remote field with low bandwidth for connectivity, or within a smart home or retail context.

Blockchain is an ideal solution for IoT security in many ways. First, it provides an elegant solution in which commands to IoT devices can be verified by the device before any action is taken. Similarly, data coming from devices can be verified as being authentic, and can be stored on an immutable ledger, providing valuable proof of provenance. Second, blockchain innately provides a solution in which no central authority oversees verification of transactions. Instead, transactions are cryptographically secured and then are validated through an independent consensus algorithm. This is important as it provides a trustless solution in which many different companies can all work together on the same platform, share the same data structures, and coordinate across a wide variety of technical implementations. Blockchain has not been able to be effectively applied to IoT use cases because of cost and throughput requirements. Devvio's solution, for the first time, gives a practical solution to using blockchain at the scale required by IoT applications. Devvio has built a large patent IP portfolio around the security capabilities and enabling technology in this space.

Devvio provides security solutions that enable identity, authentication, resiliency, information reliability, and assured access to communication networks and digitized assets.

Data coming from devices can be verified as being authentic, and can be stored on an immutable ledger, providing valuable proof of provenance.

Devvio's solution allows privacy to protect an enterprise's private data even while engaging in multiparty collaboration.

Ensuring Hardware Security throughout the IoT Value Chain

Devvio's technology and patents enable a combination of both hardware and software security validation that assures hardware assets have not been counterfeited or tampered with at the chip level. Devvio's technology ensures that hardware private keys cannot be copied in the manufacturing process and that they have not been duplicated or reverse engineered outside of the manufacturing process. This ensures that a chip's identity cannot be compromised. This protection moves up the value chain providing the same assurances at the module, device, system and network level providing a communications security platform that includes not only the data and information integrity but also the identity and integrity of the end points at the edge of the network.

Devvio Immutability

Devvio's ability to create a blockchain ledger that will remain a permanent, indelible, and unalterable history of transactions is a definitive feature that is a key benefit for security systems. Additionally, Devvio's immutable records are distributed and held across multiple computers.

Companies and Governments spend trillions of dollars on cybersecurity solutions meant to keep outside prying eyes from accessing sensitive data. But rarely do they adequately ensure that data has not been manipulated, replaced, or falsified by a company, government, employees, or intruders. In many cases, we have come to simply trust that the data is correct given user permissions. In reality, however, we cannot prove — methodically or mathematically — that information in a standard application database has not been tampered with. Additionally, cybersecurity attackers can often hide their tracks and many cybersecurity attacks lead to ransoms in order to restore a hijacked system.

Devvio's blockchain implementation brings an unprecedented level of trust and disaster recovery to the data enterprises use on a daily basis — immutability and decentralization provide full data integrity and disaster recovery. With blockchain, Communication and IoT networks can prove to their stakeholders that the information they present and use has not been tampered with, while simultaneously transforming the audit process into an efficient, sensible, and cost-effective procedure.

Devvio Interoperability

The ability to securely and reliably interconnect multiple networks is a challenge in the Communications and IoT realm. Although blockchain is not innately a data integration tool, distributed ledgers are inherently designed to offer shared visibility of data. Thus, Devvio's blockchain technology provides for new levels of interoperability. Devvio enables seamless interoperability solutions, easily integrating existing traditional databases with our blockchain platform. Devvio's solution provides a backbone to support connection and cooperation across established technologies, with quick onboarding of traditional data and intuitive integration with existing processes using tools such as our RESTful API.

Devvio Multiparty Collaboration

While interoperability is typically viewed as a technical or standards hurdle between data sets, devices, networks, etc., it is also a deeply ingrained cultural hurdle. Traditional business instinct is competitive, proprietary and walled off, and is not interdependent or shared. This friction has challenged the current Communications or IoT market as traditional product-based business models are being forced to data-driven service-based business models, which inherently require an ecosystem to deliver. The level of collaboration required for the successful and sustainable deployment of modern communication networks is significant. The range of interactions between previously disparate parties will continue to grow. Devvio protects these disparate parties. Blockchain will not only allow all participants to come together but will also provide for integrations with new laws, rules, liability frameworks, standards, and processes. Like Communications and IoT, the potential value of any blockchain configuration is a function of the "network effect" where the number of participants is a large part of the value of the network as a whole. Devvio's technology enables a multiparty system that will represent a core catalyst for future Communications and IoT business models. Devvio's technology allows broader ecosystems and solves some of the most pressing issues for the future of Communications and IoT networks.