Modex

BLOCKCHAIN DATABASE

Blockchain Technology
For your Business

Agnostic blockchain
and database engines

Ready-made
functionalities

As easy as
using an API

www.modex.tech
contact@modex.tech

Modex
BLOCKCHAIN DATABASE

Who We Are?

Modex - The Blockchain Database Company is designed to solve the last mile adoption problem of blockchain technology, bringing together an experienced team of developers, engineers, and enterprise software experts to deliver blockchain solutions that scale by building a complete ecosystem designed for for both enterprises seeking blockchain solutions and developers building ambitious blockchain projects.

> We radically simplify blockchain deployment so businesses don't have to choose between security and innovation.

Our Mission

We created Modex because, despite the data processing services available today, enterprises are still vulnerable to data protection and data security issues, and the solutions from blockchain developers are not widely available. Our mission is making blockchain affordable, fast and easy to adopt, while becoming globally-renowned provider of tailor made blockchains solutions for different end-users across various industries sectors.

Our Offices

London
Bucharest
Gibraltar
Monaco
San Francisco

Blockchain B2B Environment

Few activities can claim to have a direct impact on the global socio-economic balance. As society progresses at an unfathomable pace towards a digital model, **business-to-business** transactions (B2B) are solidifying themselves as one of the main actors which shape the global playing field. From a general perspective, **B2B transactions** present themselves as a complex web of operations which involves global supply chains, innumerable integration points, and a vast array of online services. As such, it is imperative that all these elements function as a cohesive whole, in a perpetual motion. In this context, trust emerges as a fundamental value, the pillar which holds everything together.

The process as a whole involves multiple actors and several adjacent parties which perform different functions, such as clearing mechanisms. However, anybody involved in this intriguing field can confirm that setting up **secure B2B collaborations** most often involves application integration, and if the need arises, manual reconciliation which translates to increased costs and time. In the not so distant past, it was burdensome and not very cost-effective to ensure the authenticity of items exchanged or to track the execution of transactions, due to the involvement of third-party entities like banks, logistic brokers, trading partners, EDI vendors and so on. As the number of parties involved in a transaction increases, so does the number of friction points, which may manifest themselves as costly delays and numerous data-related security risks. Certainly, these bottlenecks can prove to be overwhelming, but a somewhat new player in the tech field has demonstrated its ability to support the establishment of trustworthy B2B relationships while providing a tamper-proof medium for executing transactions and data storage.

Due to its inherent characteristics, a blockchain back-end can demonstrate its value by overcoming integration challenges, ensure trust and streamline collaborations between all parties involved through a shared digital distributed ledger.

> “Our platform is built for businesses frustrated with expensive consulting contracts and prolonged development timelines.

State Of The Art

Modern businesses recognize the value of decentralized networks, and the advantage that blockchain technologies can offer. Corporate giants including IBM, JP Morgan Chase, Ernst & Young have concluded, after extensive research, that decentralized forms of organization have moved from research to application, even among leading global corporations. The market is proving out that decentralization is of considerable value not only to the financial and business industries, but across every business sector and process. Blockchain technology provides the main vehicle to help businesses transition from a centralized model to a decentralized one. Blockchain has already started to gain considerable momentum in industries such as supply chain, healthcare, retail, financial services, telecommunications, transportation, logistics, energy and identity management. This is because, in our digital world, data has become more valuable than gold. Decentralization allows industries to ensure that their data is protected and trustworthy.

Through blockchain, businesses reap the benefits of consensus-based trust, where data is distributed among every participant. Blockchain mitigates the need for third-party gatekeepers which charge additional fees for their services and are often perceived as a security liability. With blockchain, collaboration is enabled by shared data that is verifiable and always available.

Data shared in a blockchain network is format agnostic and cannot be altered unless all parties are aware of, and agree with, the changes made. This feature transforms blockchain into one of the most valuable tools a business can have at its disposal, a verifiable and incorruptible source of truth which reduces overhead and eliminates manual processes.

> “ Enterprise Blockchain Revenue to Surpass $20 Billion by 2025, According to Deloitte 2019

Understanding Blockchain

Blockchain is unique in the sense that it has managed to directly challenge our perception of data storage and management. For the untrained eye, blockchain may simply appear as a database, and to some extent they are right. Blockchain is a database, but a database is not a blockchain. In its most basic form, blockchain is a historical record of transactions. Data introduced into a blockchain network is secured through complex cryptographic algorithms and stored in structures called blocks. Each block of transactions includes a set of data from the previous block which link them together, forming a chain of blocks. Hence the name blockchain. Because data is stored in thousands of interconnected blocks, it becomes impossible to alter. If a malicious actor tries to tamper with data from a block of transactions, all the following blocks will be rendered obsolete by the system, which will discard any changes that are not approved by the members of the network.

Transparency, **trust**, and **accountability** are imposed by the decentralized structure of the blockchain. Businesses and trade partners are no longer required to rely on external parties to mediate disputes, perform an audit, verify and share data, as the one true version of the truth will be stored in the blockchain. Each participant maintains an encrypted record of every transaction, trust is guaranteed through complex mathematics during each stage of the transaction process. This resilient recording mechanism cannot be repudiated, as such, parties that do not completely trust each other can engage in business interactions.

Public Blockchain

The first type of blockchain that emerged is the **public blockchain**, which acts as the main infrastructure for the most popular cryptocurrencies, Bitcoin and Ethereum. A public blockchain stores a single type of data – financial transactions with cryptocurrencies. Typically, this type of blockchain network has an inbuilt incentivizing mechanism which encourages more participants to join and maintain the network.

A blockchain network can be considered public when virtually anybody can join and interact with the network. All the data stored on the blockchain network is public, transparent, every member of the network can see and interact with it. This is the best example of a truly decentralized network.

Private Blockchain

From a technical perspective, **private blockchains** are almost identical to public blockchains. The main difference stems from the logic behind it and its applicability in business. Although they are similar to public blockchains from a technical perspective, individuals and companies outside the network require permission from the owner of the protocol to join.

Any company or consortium of companies that need a secure, real-time, shareable record of transactions can extract value from this technology. With blockchain, companies become the only true owners of their data, and because the system does not rely on a central server, there is no central point of failure.

Blockchain Features

> Blockchain is a utility and is most valuable when treated as a means to an end.

Decentralization

On blockchain-based infrastructures, there is no centralized server and no single point of failure. Instead, data is hosted and maintained by all business stakeholders. Decentralization translates to increased security and transparency.

Data immutability

Blockchain databases enable businesses to ensure data integrity and auditability. When built on a blockchain database, all changes made to your software's data are logged and recorded, ensuring easy compliance with industry or state-level regulations.

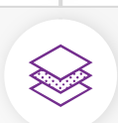
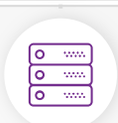
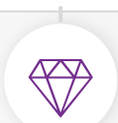
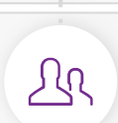
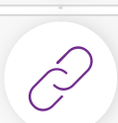
Network distribution

A blockchain backend offers a network of computers, with each storing applications, immutable data, and product functionalities. This distribution adds a new layer of utility and value to enterprise software products because it guarantees availability and fast access to the system.

Security

Blockchain technology emerged from the need for a secure and stable framework. As a result, security, cryptography, and data protection are core features of this technology, and all of blockchain's inherent properties come together to make a secure environment.

Make The Difference

Blockchain		Blockchain Database
Is a technology that can be implemented by many engine providers		**is a software product combining a blockchain engine and a database engine**
ensures the integrity/immutability of a transaction set of single structured data		**ensures the integrity/immutability of a transaction within a single-structured data set**
provides decentralization		**ensures decentralization as well as traditional user maintenance**
doesn't support partial nodes		**supports both partial and full nodes**
doesn't guarantee data encryption		**provides default encryption regardless of the database type**
is not designed to store files		**can store files as well**
can only be used stand-alone as a transactional ledger		**can be used to support enterprise data architecture & design**
can't be used in enterprise as a storage support, it can only log some transactions		**can support any enterprise software product**
doesn't support permission request based access		**supports permission request-based access**
is a stand-alone engine		**can work with any blockchain engine and any database engine**

Implementation Challenges

Blockchain has demonstrated its ability to streamline operations and significantly boost efficiency across each segment of B2B operations. Fortune 5000 Enterprise CTOs are looking to provide blockchain solution recommendations to CEOs without being bogged down by CSOs. But as an emerging technology, blockchain still hasn't fully matured, creating a number of obstacles and challenges that must be addressed in order to facilitate seamless implementation.

Cost of implementation

In order to create a stable blockchain platform, enterprises need to scout for developers proficient in blockchain development. But due to the short supply and high market demand, blockchain experts charge a considerable fee for their services. Currently, it is estimated that a single blockchain engineer has a yearly salary ranging between USD 150,000 and USD 175,000.

Interoperability challenges

Choosing the right blockchain for your business model is the key. Enterprise blockchain solutions need to guarantee that users can interact with each other on the same platform. Each database has its specific requirements. Companies with different database providers will be faced with a difficult choice if they wish to collaborate on the same blockchain.

Transitioning from legacy structures is cumbersome

Legacy systems are commonplace among many enterprises. Transitioning to a blockchain infrastructure often entails the construction of a new framework from the ground up, which can impose significant costs for the company. Furthermore, migrating data from the legacy system to the blockchain can lead to data breaches and even data loss if the procedure isn't done properly.

Insufficient blockchain literacy

Blockchain technology is just taking off so the number of blockchain experts is quite small, and companies are actively competing with to hire the best developers. While some companies are addressing this problem by training their own in-house team of developers, this is time and resource-intensive.

Continuous platform evolution

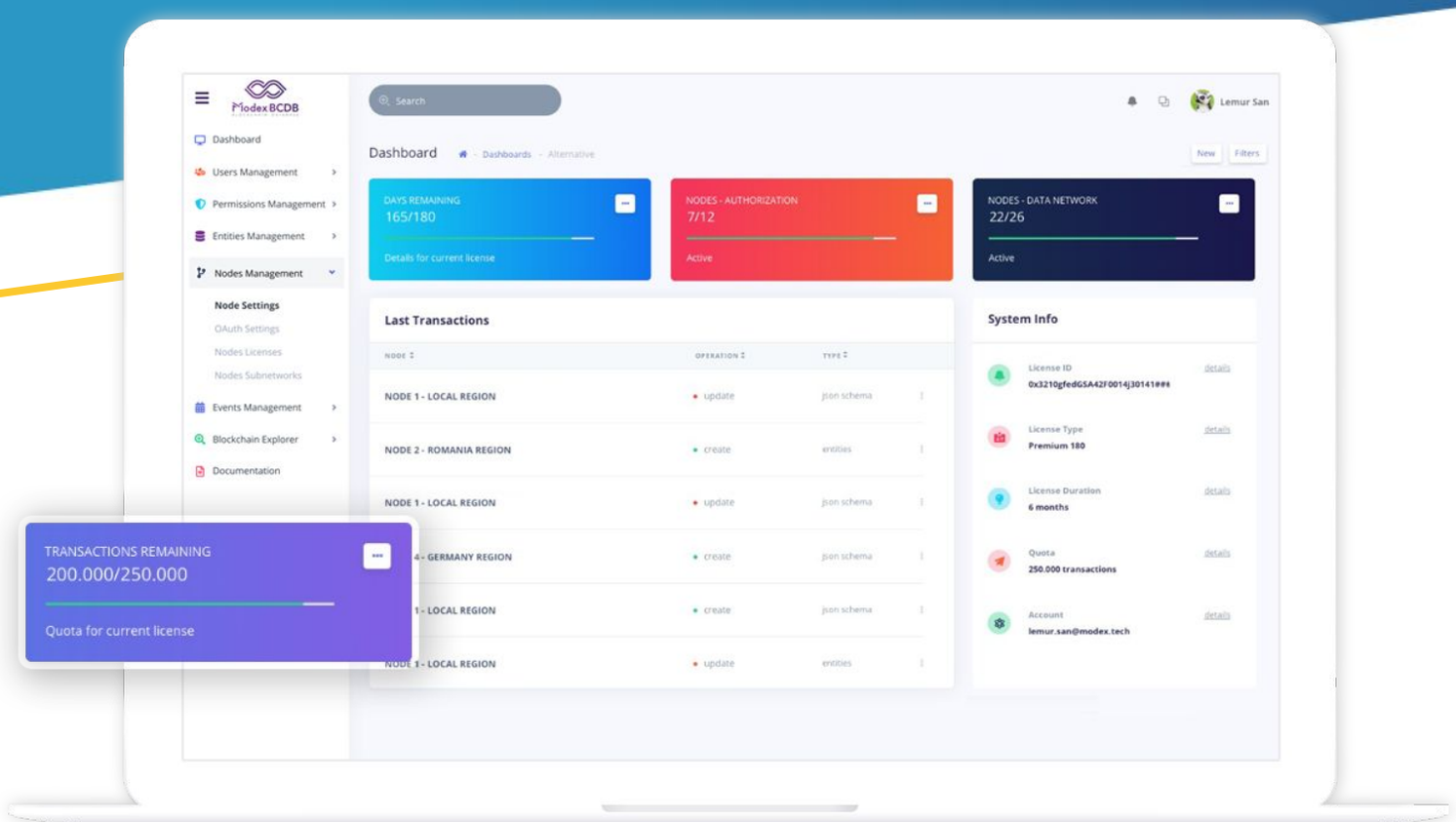
Since blockchain hasn't reached full maturity yet, companies need to constantly update their infrastructure. Rapid changes in technology can lead to compatibility issues and early obsolescence.

About our Product

Modex BLOCKCHAIN DATABASE

Modex Blockchain Database enables blockchain adoption in enterprise software development by ensuring **decentralization**, **data integrity assurance**, **high availability** and **scalability**, **improved security** and give organizations **a new way to manage business-relevant data records**.

Modex Blockchain Database addresses the biggest challenges companies face in deploying blockchain solutions - **the cost and time of implementation** - without eliminating the database component which is essential for any enterprise organization, but to mix the standard database engines with the blockchain features, while allowing programmers to work within the systems they are already using.



Benefits For Your Business

Modex
BLOCKCHAIN DATABASE

Data Security

Enhance your data with better security and traceability. Gain your customers' trust by using blockchain technology.

Reduce Costs

Forget about costly research and long development cycles. Get your enterprise blockchain database up and running in a matter of days.

Focus on Your Business

We radically simplify blockchain development so you can solely focus on your business, while we handle everything else.

Flexible Pricing

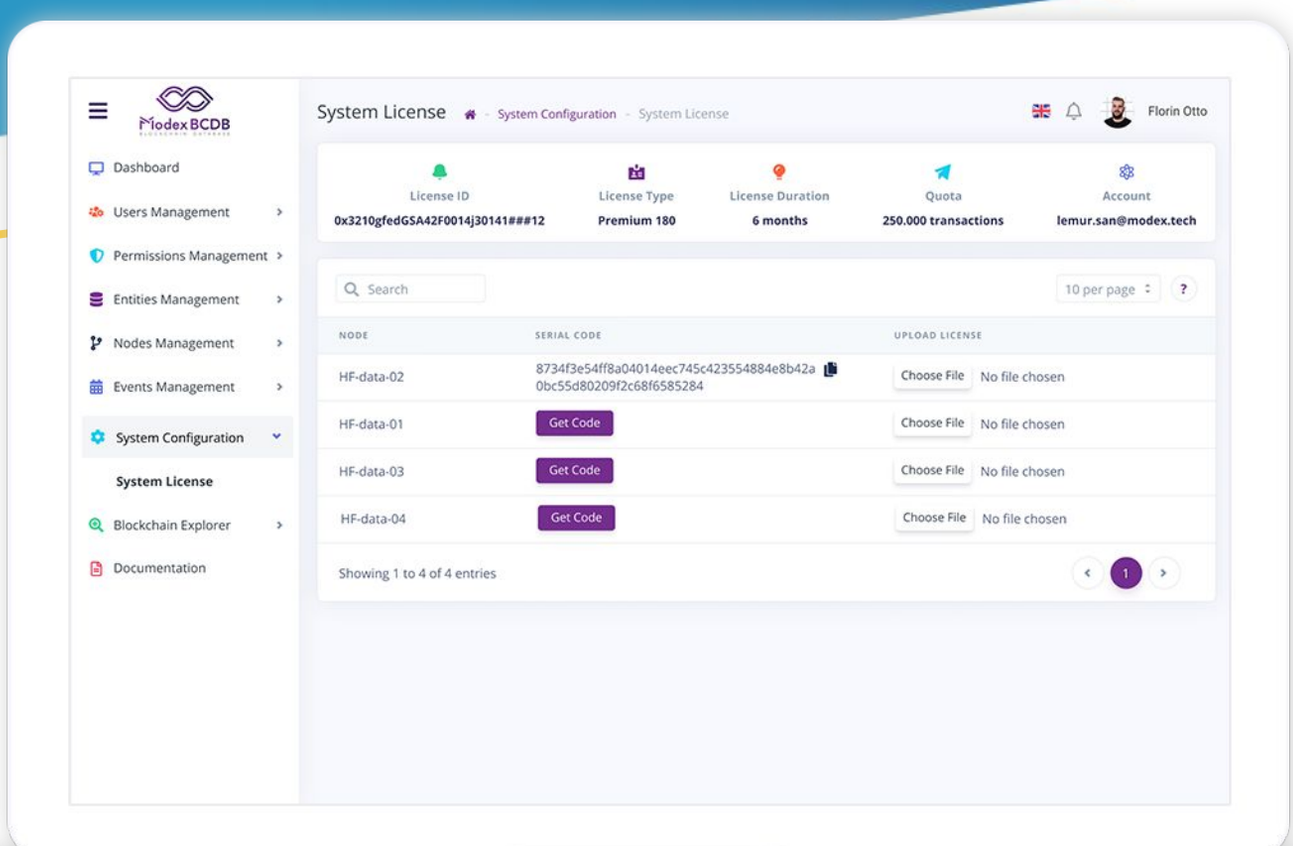
Pay as you go and only for what you use. No expensive consulting contracts or prolonged development timelines.

Fast Adoption

Significantly speeding up the adoption of blockchain with a high rate of cost/time efficiency, having core functionalities that add value to new and existing products, making them blockchain-ready.

As Easy as using an API

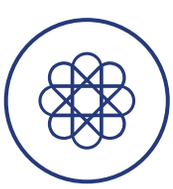
Remember integrating an API or connecting to a database? With BCDB, you can now integrate blockchain just as easy as connecting to an API.



Our Unique Innovation

Modex Blockchain Database addresses the biggest challenges companies face in deploying blockchain solutions - the cost and time of implementation. BCDB simplifies blockchain adoption to minimize both cost and time. You feel the full force of our unique innovation in the following ways:

1. Mix blockchain and traditional databases in an agnostic way to allow easy integration of existing products with the blockchain.
2. Ready-made functionalities (data encryption, data ownership, data sync rules, record history, data integrity checks, data distribution, data storage policies) are available at the back-end/storage level and won't require developers to write them into the client's source code
3. BCDB allows developers to work in the formats they already know, acting like an API or traditional database connection.



HIPAA AND GDPR COMPLIANCE

Prove that you've forgotten. Give anyone access to an auditable slice of your data without bestowing ownership or control.

SECURE YOUR DATA

Create an immutable, unhackable record of your most important data. If there is ever an intrusion or ransom, simply restore.

SHOW WITHOUT SHARING

Want to power a joint offering without passing out keys to the kingdom? Modex helps you collaborate, not compete.

Business Value

Modex Blockchain Database is a software product designed to empower large and small businesses by enabling them to make the transition to a decentralized model, without endangering the client's data. With **Modex Blockchain Database**, customers can access all the advantages of blockchain, without needing to concern themselves with the technical intricacies of the technology.

With an agnostic approach to databases and blockchain engines, **Modex Blockchain Database** is the ideal platform for B2B collaboration. We started with a simple question: what if using blockchain was as easy as using an API? The result is a platform that gets projects up and running in a matter of days. Our platform is built for businesses frustrated with expensive consulting contracts and prolonged development timelines. Now you can secure and share your data without handing it over. **With Modex Blockchain Database, blockchain is a simple utility you use when and where you need it.**

Modex Blockchain Database pricing is license-based, with a pay-as-you-go model and a certain number of free transactions to support the growth of new adopters. It works similar to a Software-as-a-Service (SaaS) model, but the infrastructure is hosted by the beneficiary.

Flexible Pricing

Unregistered
$0.00/month

1000 writes per Month

FREE
$0.00/month

25k writes per Month

2 hours of Implementation Support

LIGHT
$50/month

100k writes per Month

5 hours of Implementation Support

STANDARD
$241/month

500k writes per Month

5 hours of Implementation Support

PREMIUM
$463/month

1M writes per Month

10 hours of Implementation Support

PREMIUM+
$888/month

2M writes per Month

10 hours of Implementation Support

ENTERPRISE
$1275/month

3M writes per Month

10 hours of Implementation Support

Business Consulting

CUSTOM
Request Quote

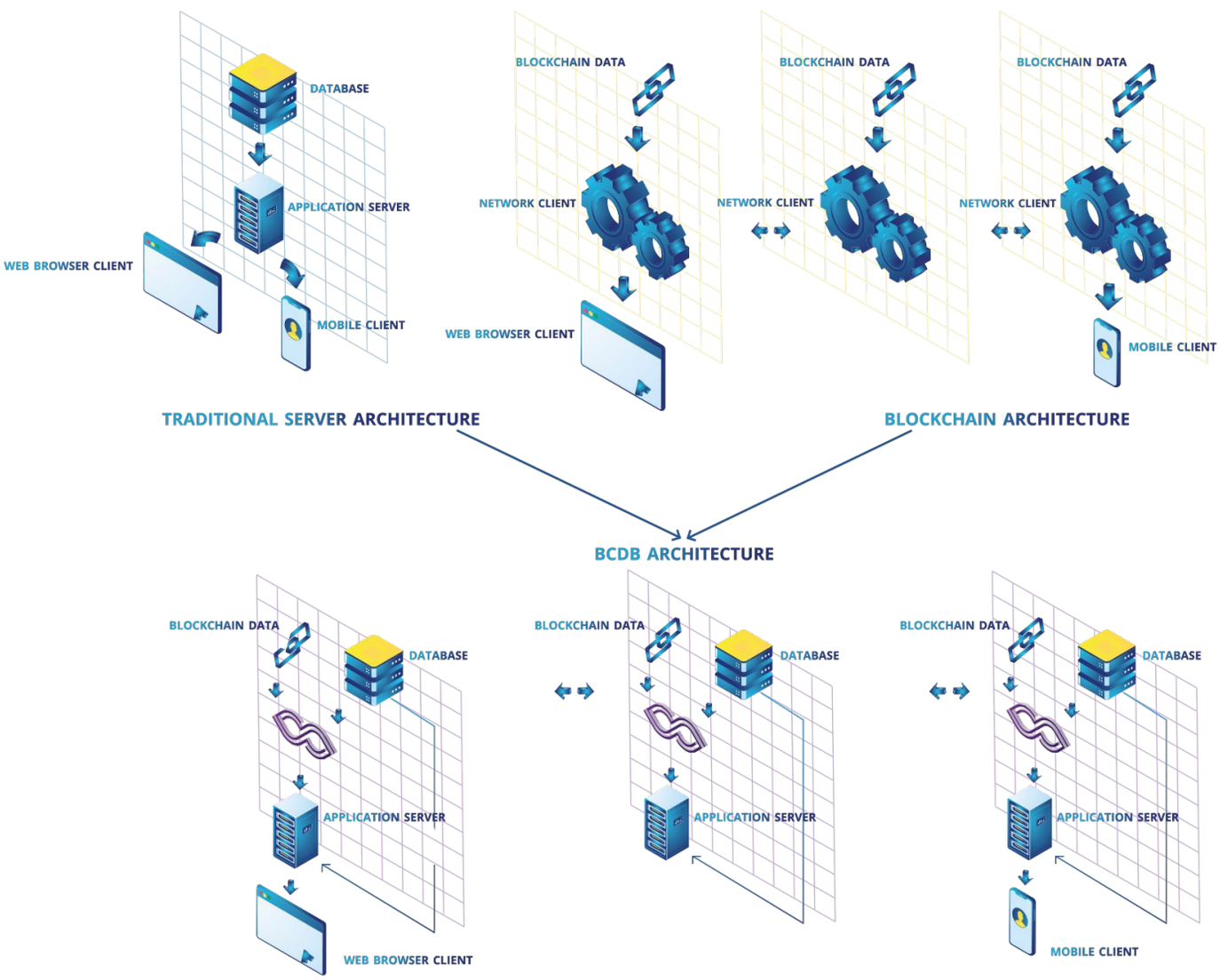
From 3M writes/month

Complete Implementation Support

Business Consulting

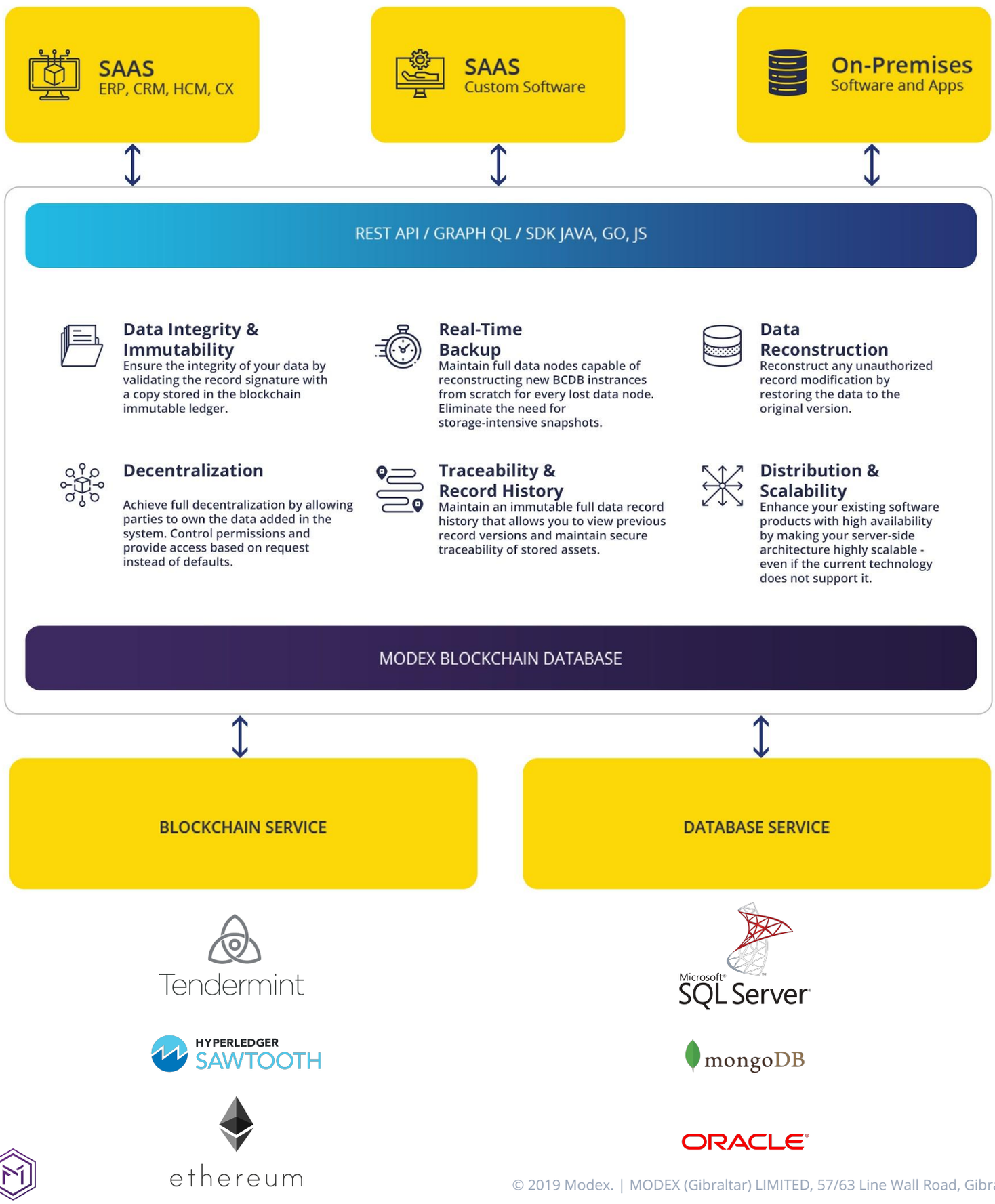
How Modex BCDB Works

Modex Blockchain Database implements a series of blockchain and database adapters over which the core engine orchestrates the CRUD operations, providing a REST API and TCP language specific drivers. Data are organized into entities, similar to database tables. An entity maps data from blockchain and database. On the database level, the blockchain metadata is also stored, as well as the full data payload, based on the specific field configurations on entity creation.



On the blockchain level the metadata of a record for a specific entity is stored, containing information such as the record id, the signature of the record stored in the database, the owner of the record, the original node of the record and additional configurable data.

Modex BCDB Architecture



Enterprise Blockchain Use Cases

The development of blockchain-based solutions for enterprises given its versatile applicability in a wide variety of industries is our highest strategic priority. Blockchain technology offers several key features that are crucial for companies today: transparency through security, decentralization, scalability, high availability, and data immutability.

Supply Chain

- Provenance Tracking
- Minimize courier costs
- Reduce or eliminate fraud and errors and delays from paperwork
- Increase consumer and partner trust
- Improve inventory management

Healthcare

- Storing patient data
- Secure exchange of data between health organizations reduce the implications of cyber attacks, managing provider information effectively
- Drug Traceability

Banking and Financial Enterprise

- Financial tracking of AML/KYC information
- Cross-Border Transactions & Remittance
- Accounting
- Bookkeeping
- Audit
- Distributed immutability of secure logs

Government and Public Sector

- Secure storage of citizen and business data
- Reduction of labor-intensive processes and excessive costs
- Reduced opportunities for corruption and abuse
- Increased trust in government and online civil systems

Your Use Case

We are always exploring new ways we can integrate in various industries.
Please contact us if you need a custom solution.

Modex

BLOCKCHAIN DATABASE

Achievements

Best Blockchain Startup

Horizon 2020

Certification

Certification

International Association for Trusted Blockchain Applications

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