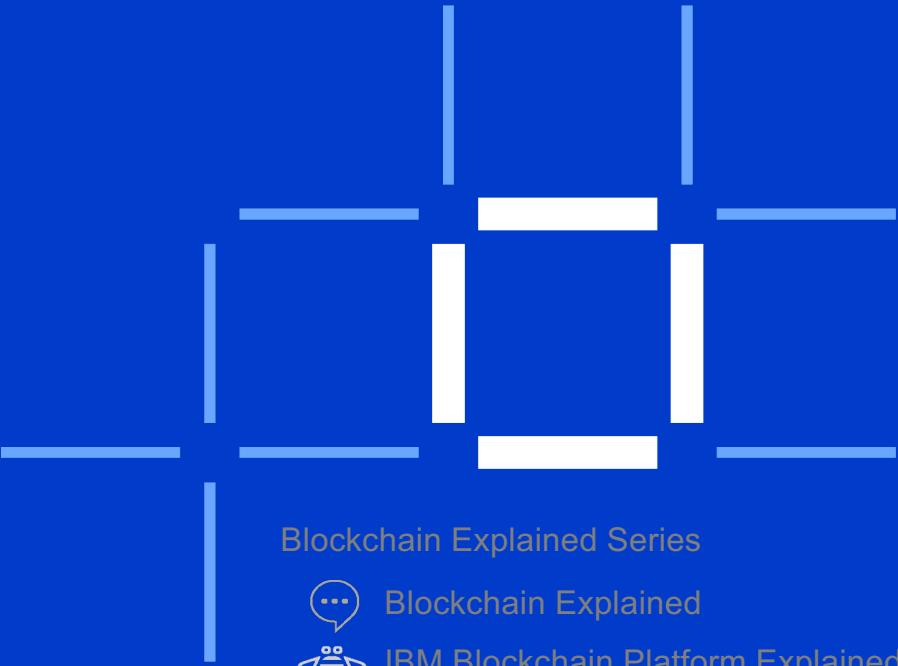


IBM Cloud Garage with Blockchain

Blockchain is a team sport...

*Spark your network in the IBM **Cloud** Garage.*



Blockchain Explained Series

- [Blockchain Explained](#)
- [IBM Blockchain Platform Explained](#)
- [Solutions Explained](#)
- [**Garage Explained**](#)
- [Next Steps](#)

V1.1, 8 June 2018

IBM **Blockchain**

IBM

Blockchain is creating extraordinary opportunities for businesses to come together in new ways.

IBM Blockchain

Create new value.

Exploit new business models and eliminate inefficiencies.

Optimize ecosystems.

Streamline business processes and the exchange of value along your ecosystem.

Reduce risk.

Replace uncertainty with transparency and a trusted, decentralized ledger.

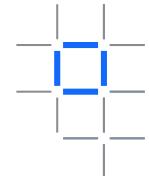


IBM Cloud Garage with Blockchain

At-A-Glance

The IBM Cloud Garage with Blockchain

helps you collaborate on business network problems and quickly build blockchain solutions.



What we offer

Discovery Workshop

Understand market opportunities and select a use case which represents the value your organization and your business network seek, while also gaining a deeper insight in blockchain technology. Mandatory for every new partnership.

Length: Half-day

Design Thinking Workshop

Apply IBM Design Thinking principles to evaluate current business processes, identify business network and define the minimal viable product for your blockchain solution.

Length: 2 days

Architectural Consultancy

Enlist the support of a blockchain architect in an IBM Cloud Garage to help define the framework of your blockchain solution.

Length: 1 week

MVP Build-up

Develop a functioning blockchain solution using agile methodologies, leveraging experts in IBM Blockchain, UX/UI design and development, and cloud architecture.

Length: 4–10 weeks

Where to find us

Partner with IBM Cloud Garage around the globe or we bring a pop-up garage to your site.



Dubai



London



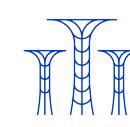
Munich



New York



San Francisco



Singapore



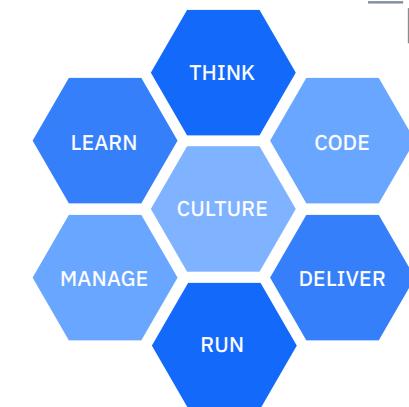
Tokyo



Toronto



Anywhere



How we do it

Together we use the IBM Blockchain Platform to quickly develop your blockchain solution, define the governance of the network, and establish the network operations.

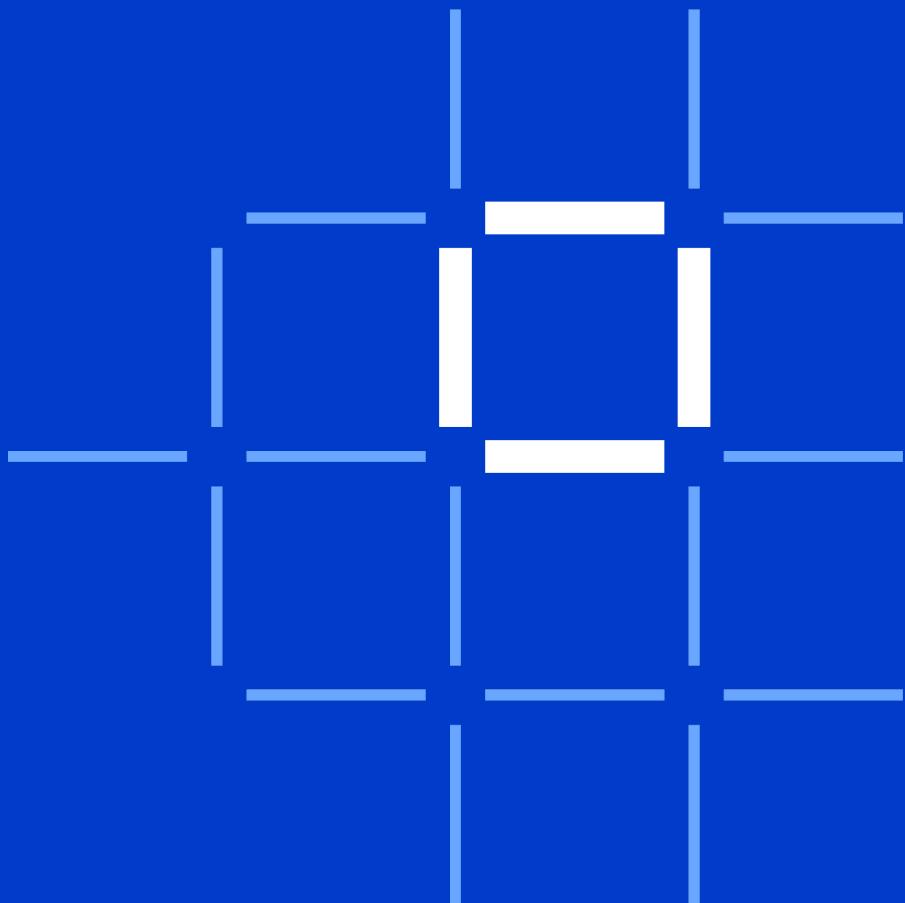
We combine industry best practices including IBM Design Thinking, agile development, and continuous delivery.

We connect you to experts in IBM Blockchain, UX/UI design and development, as well as cloud architecture.

Request a consultation

www.ibm.com/blockchain/garage

Client stories



IBM Blockchain

IBM

Fresh Turf

Last-mile fulfillment in retail logistics

Fresh Turf is a Singapore-based startup that is working with IBM to tackle the challenges with last-mile fulfillment in retail logistics.

To help solve this void in the market, Fresh Turf turned to the IBM Garage, immersing in a unique, user-centric approach with **IBM Design Thinking**.

This new approach helped the startup rapidly identify and build a **minimum viable product (MVP)** to test the team's hypothesis.

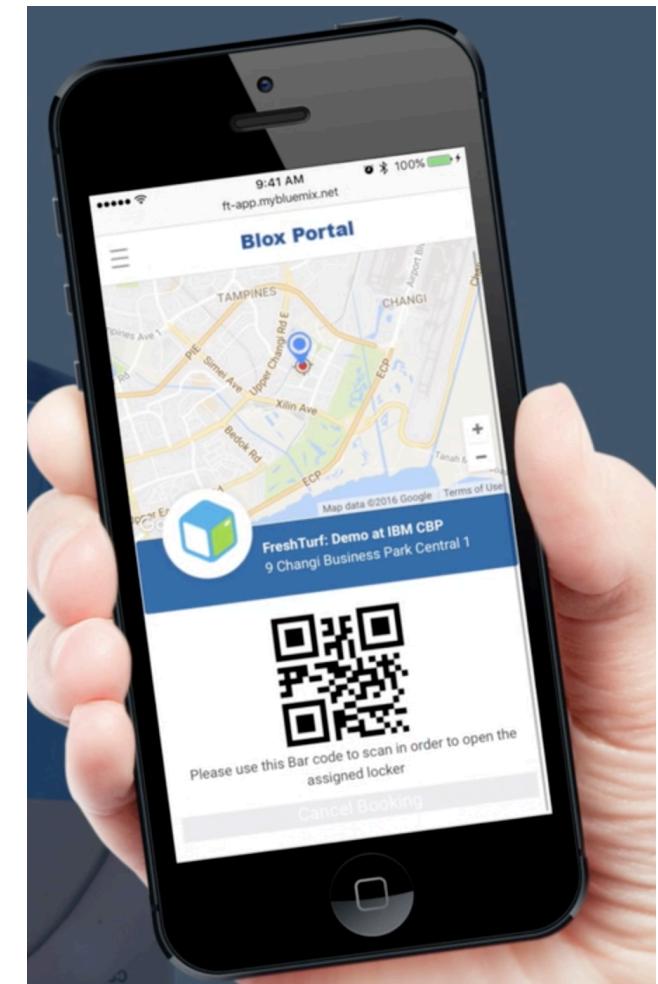
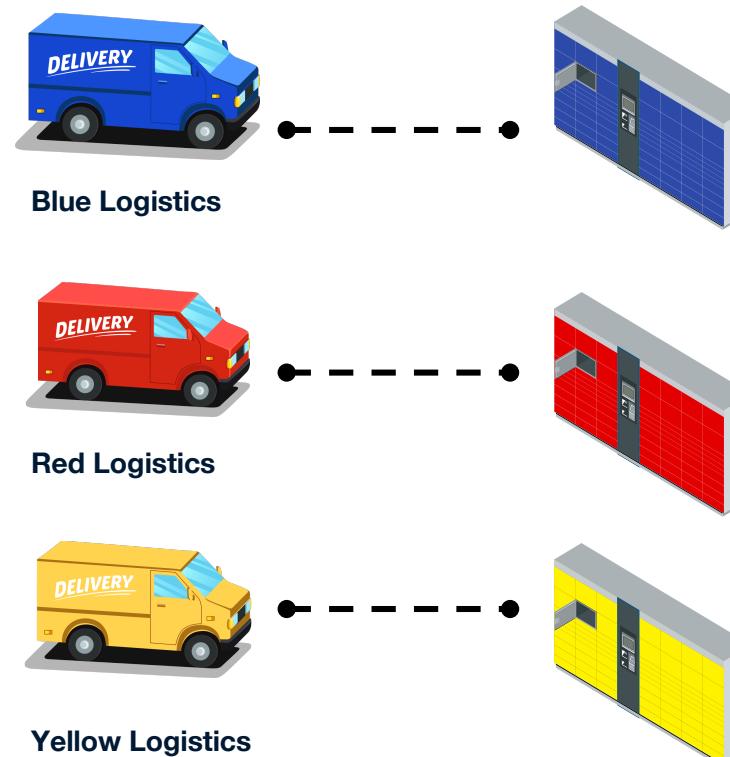
"We chose IBM because they are a global leader in building blockchain on the cloud, with vast experience in blockchain projects around the world and across multiple industries. IBM Cloud is also the most convenient way to test a blockchain network on the cloud."

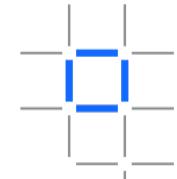
– Kevin Lim, co-founder, FreshTurf

Learn and read more at:

<https://www.youtube.com/watch?v=DgS8jBwSX3c>

<https://www.dealstreetasia.com/stories/ibm-partners-singapore-start-up-freshturf-to-use-ibm-cloud-and-blockchain-technologies-for-secure-storage-lockers-network-56215>





AIG with Standard Chartered Bank

Multinational blockchain initiative

IBM created a minimum viable business network between **AIG, Standard Chartered Bank, and regulators** to provide full transparency around the “master” and “local” policies, their associated premiums and payments, and policy issuance.

The project converted a controlled D&O insurance master policy (UK) and three local underlyers (Kenya, US, Singapore).

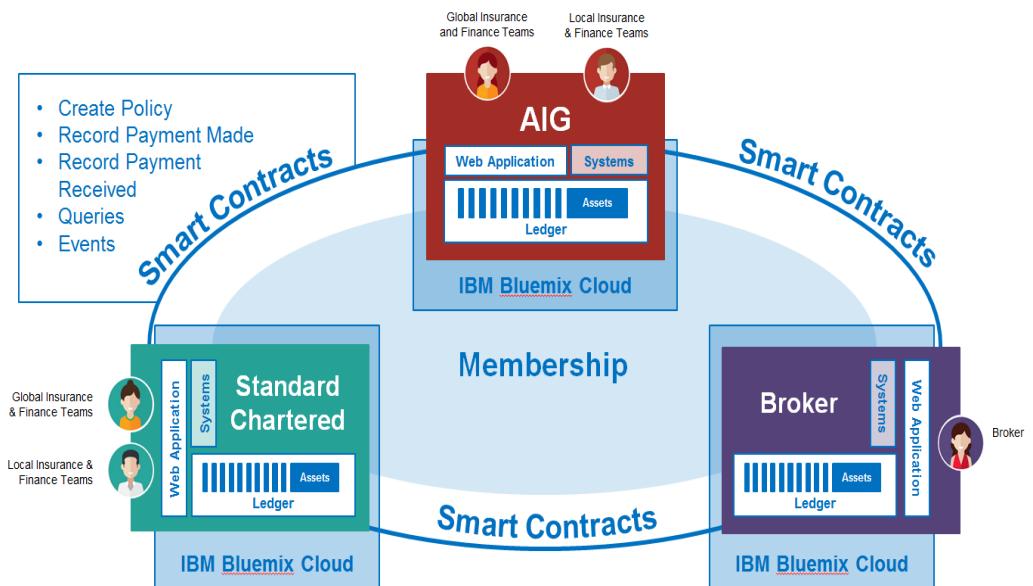
Engagement details:

- A **Design Thinking Workshop** in the London Garage.
- Multiple key AIG stakeholders drove the implementation of the **8-week MVP** in the Blockchain Garage, joined by IBM Blockchain Services.

Client Video:

<https://www.youtube.com/watch?v=mgUK0cPoasw>

IBM Blockchain



IBM Cloud



IBM Blockchain Platform



Cloudant

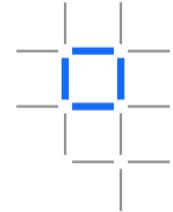


Availability Monitoring



IBM Blockchain engagements

Making blockchain real for business with more than 400 engagements and multiple active networks



Trade Finance



Identity/ Know your customer (KYC)



Medicated Health Data Exchange



Fraud/ Compliance Registry



Distributed Energy/ Carbon Credit



Supply Chain

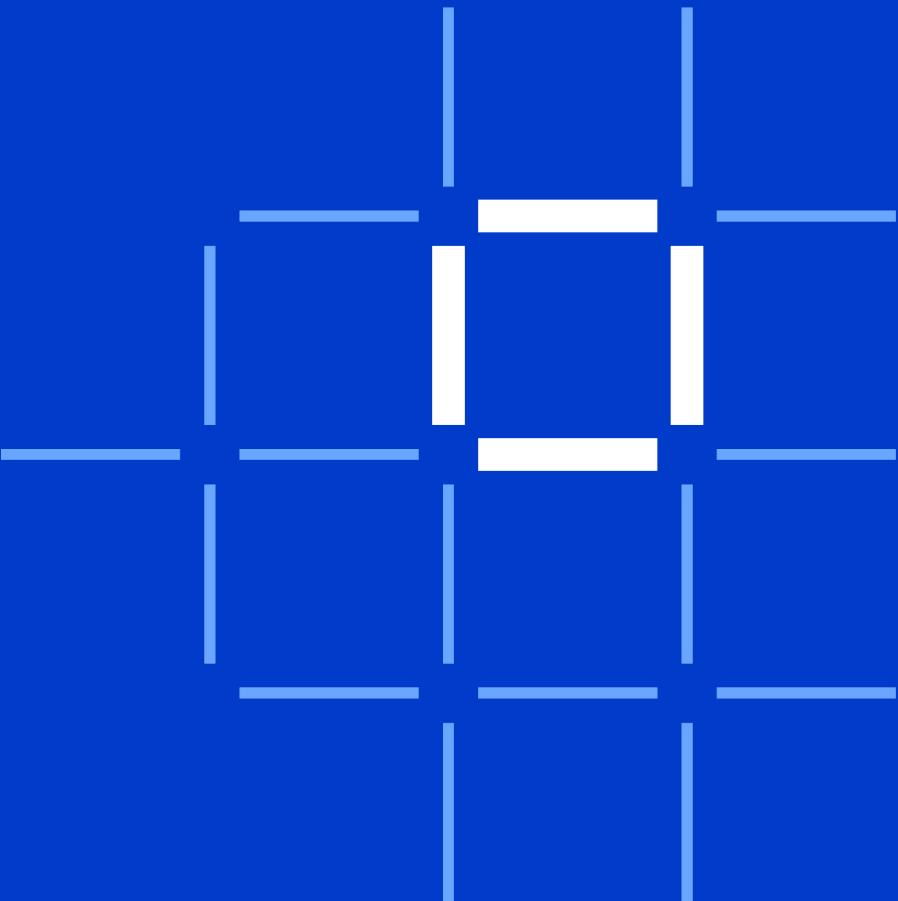


IBM Blockchain

Food Safety



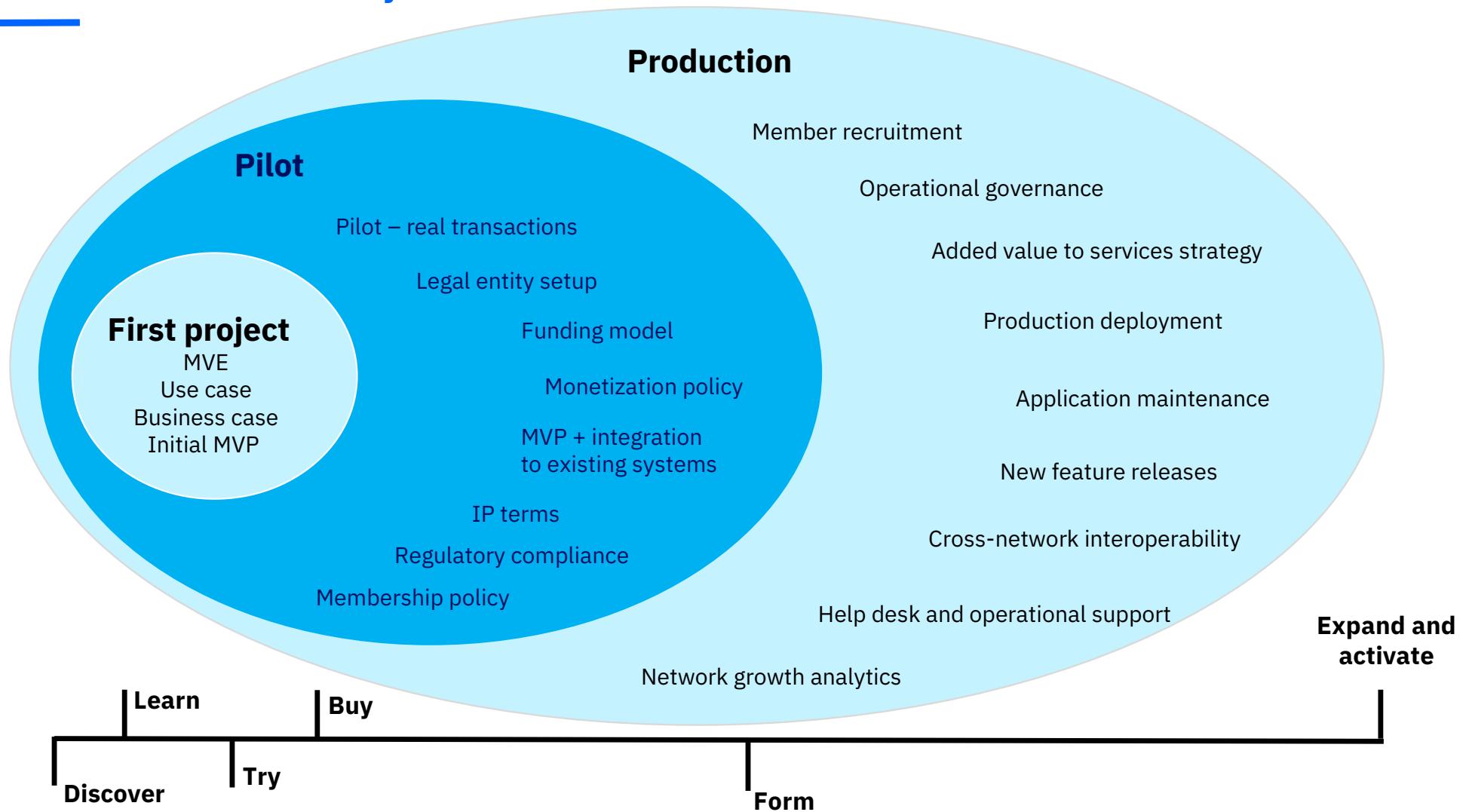
Offering information

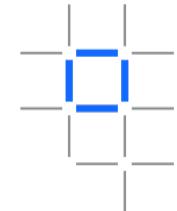


IBM Blockchain

IBM

Blockchain maturity model



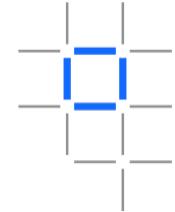


Cloud Garage locations

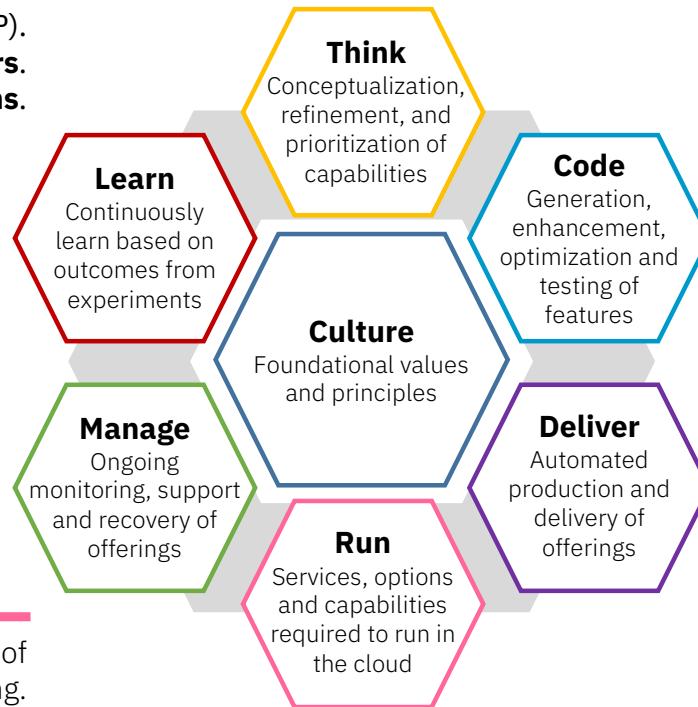


Leverage the IBM Cloud Garage with Blockchain for industry best practices in building and delivering blockchain solutions for your first project.

Cloud Garage Method



Deploy the **minimum viable product** (MVP).
Gather feedback from **sponsor users**.
Drive improvements with **iterations**.



Use **IBM Blockchain** to develop, govern and operate networks.

Begin with an **IBM Design Thinking workshop** to design a solution that meets user needs and delivers business value.

Use the agile method called **extreme programming** for MVP projects.

Use **DevOps** coupled with **test-driven development**.

Leverage the **IBM Cloud** platform instead of worrying about the plumbing.

The Cloud Garage Method and blockchain expertise combines industry best practices for building and delivering blockchain solutions.

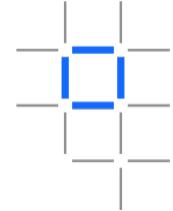
Discovery Workshop with Blockchain

Understand market opportunities and select a use case that represents the value that your organization and your business network seek. Gain a deeper insight into blockchain technology.

IBM Blockchain

- ~~Use Case~~
- 1) Letter of Credit
 - 2) Corporate Debt (or B)
 - 3) Consortium
 - 4) Commercial Shared Le
 - 5) Tri-Party Paper
 - 6) P...

Discovery Workshop with Blockchain



OFFERING AT A GLANCE

Up to a half day in one of our worldwide IBM Cloud Garage locations to explore blockchain use cases

Offering activities and details

Come to one of our worldwide IBM Cloud Garage locations, embedded within technology incubators in some of the world's largest startup communities.

Take the opportunity in this half-day, no charge offering to engage with Cloud Garage staff and learn how we can help you to achieve your business goals through innovation with blockchain.

Goals

- Understand how the IBM Cloud Garage works.
- Obtain an overview of IBM Cloud and IBM Blockchain.
- Clarify your opportunity space (the use case and/or the current pain points) and learn how to get started.
- Tour the IBM Cloud Garage.

Client participants

- **Line-of-business executives** - business leaders looking for innovative ways to grow their business
- **CIO and technology executives** – leaders who want to learn how the Garage can help increase IT speed and close the gap between business and IT
- **Non-technical line-of-business teams** – participants who want to explore new ways to solve business challenges

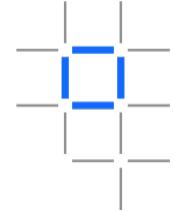
Prerequisites

- Contact your IBM sales representative to schedule a visit.

Deliverables

- None

Discovery Workshop with Blockchain



AGENDA

Activity	Length
Introductions	15 minutes
Blockchain level-set: IBM strategy, terminology, use case considerations	45 minutes
Use case ideation	90 minutes
Break	15 minutes
Prioritize use cases	15 minutes
Next steps	30 minutes

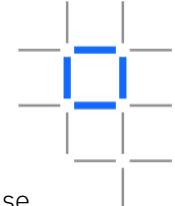
Design Thinking Workshop with Blockchain

Apply IBM Design Thinking principles to evaluate current business processes, identify the business network, and define the minimum viable product for your blockchain solution.

IBM Blockchain



Design Thinking Workshop with Blockchain



OFFERING AT A GLANCE

One week of blockchain solution design at a worldwide IBM Cloud Garage location or at a pop-up Garage near you

Offering activities and details

In this workshop, your line of business and technical teams join the IBM Cloud Garage team in a very **interactive experience** to identify and understand the end-user, obtain alignment on the business outcome, **evaluate for blockchain fit**, and identify the smallest application – the minimum viable product (MVP) – required to test your wanted business outcomes.

The workshop consists of two days of collaborative activities to define the MVP, followed by 2-3 days of high-level architecture and conceptual design definition.

Goals

- Align stakeholders on the business opportunity and use case.
- Understand the business network and the roles within it.
- Evaluate for blockchain technical fit.
- Determine a hypothesis based on assumptions and risks.
- Define goals and an MVP to test the hypothesis.

Client participants

- **Executive sponsor**, who is the voice of the business and its success
- **Line-of-business representative**, who provides context around the existing business process
- **IT or development team** representative, who understands the current IT strategy and/or builds what is defined in the workshop
- **Product owner**, who understands the users, the ecosystem, and the future trends of the application to be developed
- **Sponsor user**, who represents the end-user community
- **Business network**, which includes the above listed roles, from multiple business network members

Prerequisites

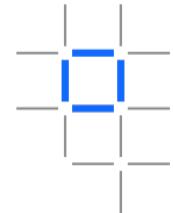
- Agreement between your organization and IBM on the business opportunity.
- Identification of the required participants, based on the use case

Deliverables

- Workshop outcomes deck and blockchain MVP project definition

Design Thinking Workshop with Blockchain

AGENDA



Morning - Day 1	Afternoon - Day 1	Morning - Day 2	Afternoon - Day 2
Welcome and introductions	As-is process	Solution ideation	MVP hypothesis
Blockchain overview	Use cases and blockchain fit	Hill statements	MVP business network
Explore business hypothesis	Business network exploration	Storyboarding	Technical deep dive
Goals and non-goals	Empathy mapping	To-be process	Retrospective
			Next steps

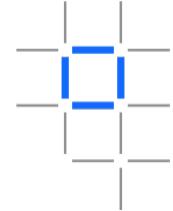
MVP Build-up with Blockchain

Develop a functioning blockchain solution using agile methodologies, leveraging experts in IBM Blockchain, UX/UI design and development, and cloud architecture.

The image displays two main application interfaces. The top interface is a web-based platform titled 'Energy with IBM Blockchain' (ibm.biz/bc4energy), featuring a 3D-style map of a city area with buildings, roads, and green spaces. It includes sections for 'Community energy usage', 'Energy sources', and 'Household Stats' for 'The Miles Family', which shows energy savings of \$101 and energy coins of 0. The bottom interface is a web-based platform titled 'Will Documents on Blockchain', showing a list of users: Tina Trotter (Testator), Edwin Eagleton (Executor), Ben Bright (Beneficiary), and Gary Grant (Government tax authority). The 'Will documents' section shows a detailed view for Tina Trotter, listing assets (2014 Mazda 3 LX, 2016 Ford Mustang GT) and beneficiaries (Ben Bright). A smartphone on the right shows a mobile version of the 'Household Stats' screen for 'The Miles Family'.

MVP Build-up with Blockchain

OFFERING AT A GLANCE



Blockchain MVP development at one of our worldwide IBM Cloud Garage locations with our Cloud and Blockchain experts

Offering activities and details

The MVP Build-Up offering is designed to help your development team **learn fast, test hypotheses, and iterate quickly** – as they build and deploy a blockchain minimum viable product (MVP) using IBM Cloud and IBM Blockchain.

The objective is to quickly develop a production-quality blockchain MVP application using the **IBM Cloud Garage Method** and to obtain rapid and iterative end-user feedback to test a business hypothesis. Teams use pair programming, test-driven development, continuous integration and delivery and other agile and DevOps practices with tools and services **on IBM Cloud and IBM Blockchain Platform**.

Goals

- Rapidly build production quality code for the blockchain MVP.
- Deploy the MVP and obtain user feedback to test a hypothesis.
- Learn how to apply the IBM Cloud Garage Method to transform your application design and development.

Client participants

- **Product owner** – prioritizes user stories and makes pivot decisions
- **Developer** – pairs with Garage developers to build the MVP
- **Sponsor user** – represents user community and provides feedback

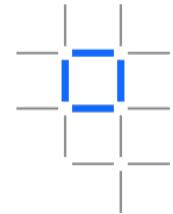
Prerequisites

- Blockchain MVP definition through IBM Cloud Garage Design Thinking Workshop with Blockchain
- Entitlement for IBM Cloud to serve as a development and deployment platform

Deliverables

- MVP application, including source code, delivered on IBM Cloud

MVP Build-up with Blockchain



TEAM COMPOSITION



ENGAGEMENT
LEADER (PT)



PROJECT
MANAGER



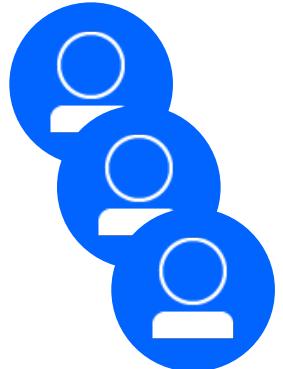
BUSINESS
EXPERTS



BLOCKCHAIN
ARCHITECT (PT)



UX-DESIGNER (PT)



UI, CLOUD, AND
BLOCKCHAIN
DEVELOPERS

IBM

Client(s)



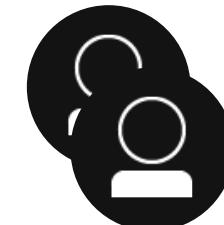
EXECUTIVE
SPONSOR



PRODUCT
OWNER



SUBJECT MATTER
EXPERTS



DEVELOPERS*

PT = part time
* as appropriate

IBM Blockchain

IBM

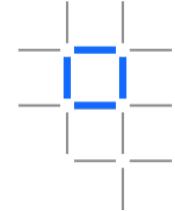
Architectural Consultancy with Blockchain

Enlist the support of a blockchain architect in an IBM Cloud Garage to help you define the framework of your blockchain solution.

IBM Blockchain



Architectural Consultancy with Blockchain



OFFERING AT A GLANCE

One week architecture engagement delivered remotely, onsite, or at one of our worldwide IBM Cloud Garage locations

Offering activities and details

This service includes an IBM Cloud Garage blockchain architect to provide **thought leadership, advice, and guidance to help you plan the architecture** for an enterprise blockchain solution. Although not limited to the following activities, the service offering can include:

- **Architectural advisement** on a selection of a variety of topics, including Hyperledger Fabric, Hyperledger Composer, IBM Blockchain Platform, blockchain development patterns, and security/compliance requirements.
- **Assessment of effort** to refactor or move applications to the cloud.

Goals

- Review and validate a use case with stakeholders.
- Plan the architectural design and scope to build and deploy the use case.

Client participants

- **IT or development team** representative who understands the current IT strategy and/or builds what is defined in the workshop
- **Product owner**, who understands the users, the ecosystem, and the future trends of the application to be developed

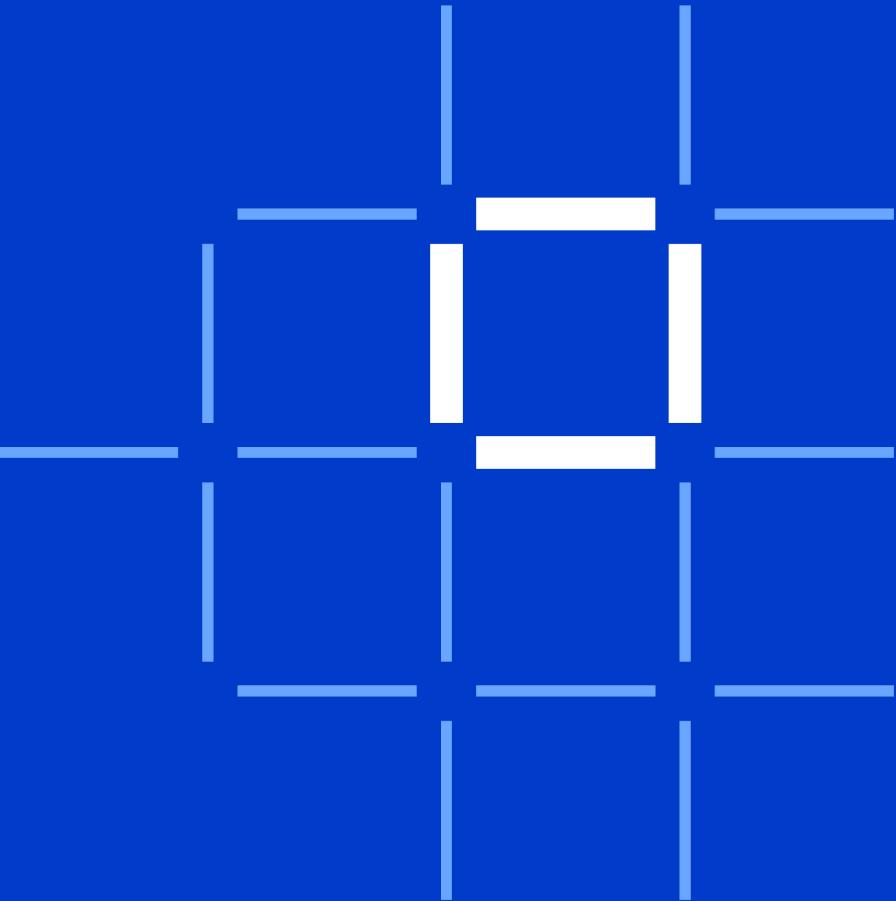
Prerequisites

- Identify a use case that is either defined in an IBM Cloud Garage Design Thinking Workshop with Blockchain or is an existing application considered for migration to a cloud environment.

Deliverables

- None

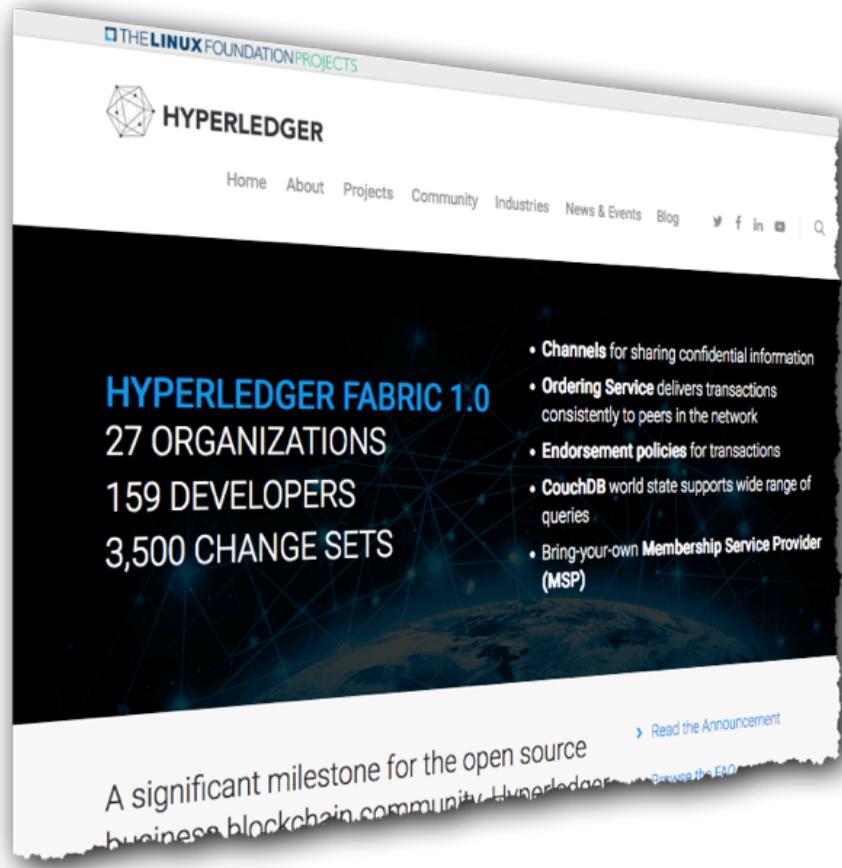
Our technologies



IBM Blockchain

IBM

Hyperledger Fabric



The foundation for developing blockchain applications for business

A distributed ledger platform with an emphasis on ledger, smart contracts, consensus, confidentiality, resiliency, and scalability.

V1.0 released July 2017

- 159 developers from 27 organizations
- IBM is one contributor of code, IP, and development effort to Hyperledger Fabric

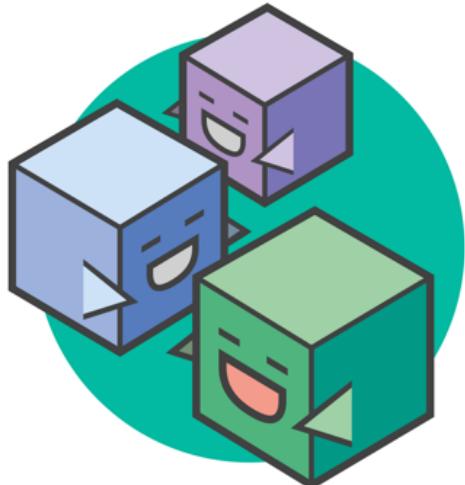
<http://hyperledger-fabric.readthedocs.io/>

Hyperledger Composer

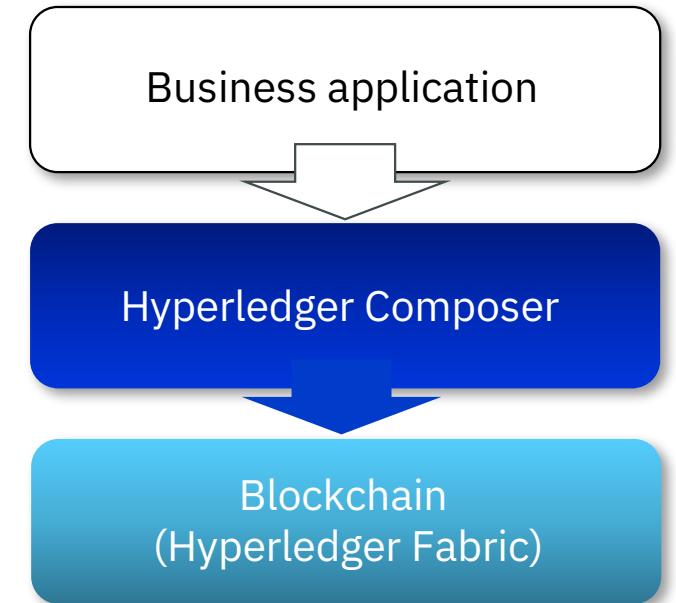
Accelerating Blockchain solution time-to-value

<https://hyperledger.github.io/composer/>

- Use a suite of high-level application abstractions for business networks.
- Focus on **business-centric vocabulary** for quickly creating solutions.
- Reduce risk and increase understanding and flexibility.



- Features:
 - Model your business networks, test, and expose through APIs.
 - Use applications to start transactions to interact with a business network.
 - Integrate existing systems of record.
- Fully open and part of Linux Foundation Hyperledger.
- Try it now: composer-playground.mybluemix.net



The only **fully integrated, enterprise-ready blockchain platform** designed to accelerate the development, governance, and operation of a multi-institution business network.

Based on the Hyperledger Fabric V1 runtime, optimized for enterprise requirements.

Specialized compute for **security, performance and resilience**.

Delivered through the IBM Cloud on a global footprint with 24x7 integrated support.

Full lifecycle tools to speed activation and management of your network.

Develop

Explore and accelerate development time with tools that ensure close alignment between business leaders and developers.

Govern

Speed activation, customization, and management of your business network with democratic, multi-party governance tools.

Operate

Deploy and operate always-on networks with production-ready enterprise performance and security for most demanding use cases.

[http://ibm.biz/Platform_Demo]

For more information, see
www.ibm.com/blockchain/garage

www.ibm.com/blockchain

developer.ibm.com/blockchain

www.hyperledger.org

*Questions? Tweet us or
go to ibm.com/blockchain*

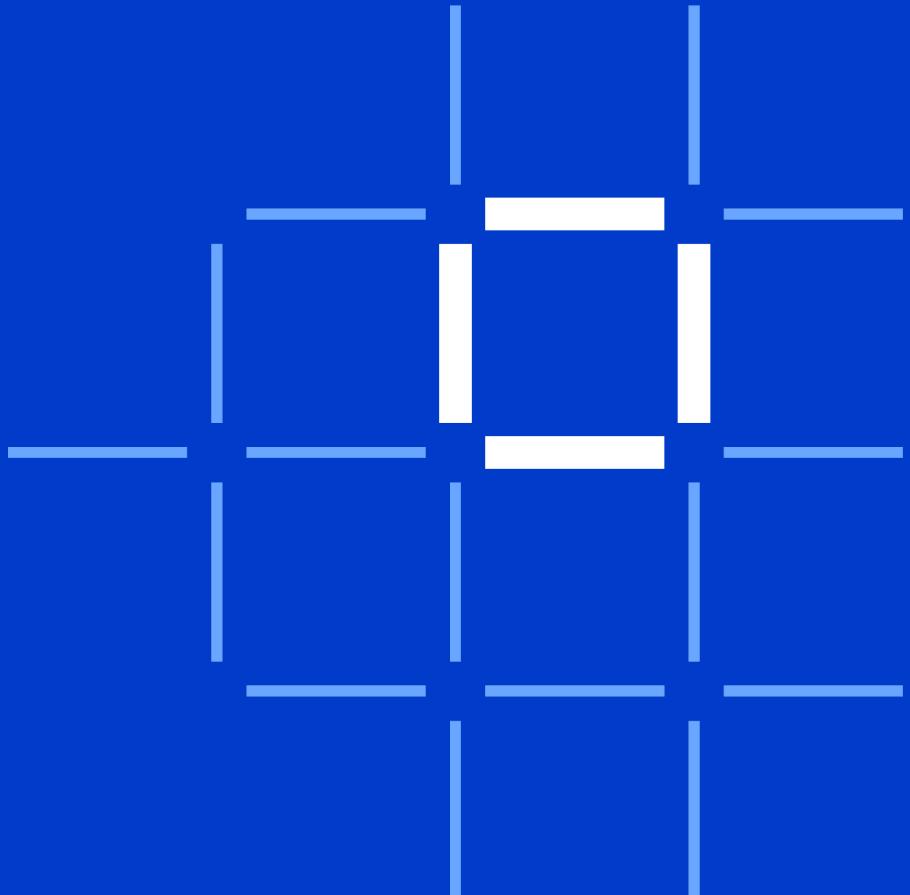
 @IBMBlockchain

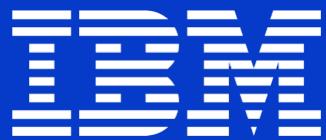
 IBM Blockchain

 IBM Blockchain

IBM Blockchain

IBM





© Copyright IBM Corporation 2018. All rights reserved. The information contained in these materials is provided for informational purposes only, and is provided AS IS without warranty of any kind, express or implied. Any statement of direction represents IBM's current intent, is subject to change or withdrawal, and represents only goals and objectives. IBM, the IBM logo, and other IBM products and services are trademarks of the International Business Machines Corporation, in the United States, other countries or both. Other company, product, or service names may be trademarks or service marks of others.