Hyperledger Overview

February 2018
Introducing Hyperledger

Open source collaborative effort to advance cross-industry blockchain technologies

Hosted by The Linux Foundation, fastest-growing project in LF history

Global collaboration spanning finance, banking, IoT, supply chains, healthcare, manufacturing, technology and more.
Together with the global technology community, The Linux Foundation® is solving the world’s hardest problems through open source and **creating the largest shared technology investment in history**.

With 16 years experience providing **governance structure, IT infrastructure and ecosystem development**, The Linux Foundation is the umbrella organization for **more than 60 open source projects** accelerating open technology development and commercial adoption.

Some of the game-changing initiatives hosted by The Linux Foundation include:
The Linux Foundation has achieved an unbelievable feat in bringing together a community of traditionally competitive institutions. To facilitate such extensive collaboration between startups, financial and nonfinancial corporations and technology giants is an enormous win for the whole distributed ledger industry as firms look to leverage mutually beneficial code for the common good.”

— Blythe Masters

CEO, Digital Asset,
Governing Board Chair, Hyperledger
The Linux Foundation 2016 Annual Report
Shared Ledger Database

Blockchain allows multiple different parties to securely interact with the same universal source of truth

**Finance**
Streamlined settlement, improved liquidity, increased transparency and new products/markets

**Healthcare**
Unite disparate processes, increase data flow and liquidity, reduce costs and improve patient experience and outcomes

**Supply Chain**
Track parts and service provenance, ensure authenticity of goods, block counterfeits, reduce conflicts
Hyperledger Goals

Where open source teams build diverse approaches for business blockchain technology systems

Create enterprise grade, open source, distributed ledger frameworks & code bases to support business transactions

Provide neutral, open, & community-driven infrastructures supported by technical and business governance

Build technical communities to develop blockchain and shared ledger POCs, use cases, field trials and deployments

Educate the public about the market opportunity for blockchain technology

Promote our community of communities taking a toolkit approach with many platforms and frameworks
Hyperledger Modular Umbrella Approach

Infrastructure
Technical, Legal, Marketing, Organizational

Ecosystems that accelerate open development and commercial adoption

Frameworks
Meaningfully differentiated approaches to business blockchain frameworks developed by a growing community of communities

Tools
Typically built for one framework, and through common license and community of communities approach, ported to other frameworks
Hyperledger Business Blockchain Frameworks

- **Hyperledger Fabric**: Intended as a foundation for developing applications or solutions with a modular architecture, Hyperledger Fabric allows components, such as consensus and membership services, to be plug-and-play.

- **Hyperledger Iroha**: A business blockchain framework designed to be simple and easy to incorporate into infrastructural projects requiring distributed ledger technology.

- **Hyperledger Sawtooth**: A modular platform for building, deploying, and running distributed ledgers. Hyperledger Sawtooth includes a novel consensus algorithm, Proof of Elapsed Time (PoET), which targets large distributed validator populations with minimal resource consumption.

- **Hyperledger Burrow**: A permissionable smart contract machine. The first of its kind when released in December, 2014, Burrow provides a modular blockchain client with a permissioned smart contract interpreter built in part to the specification of the Ethereum Virtual Machine (EVM).

- **Hyperledger Indy**: Tools, libraries, and reusable components for providing digital identities rooted on blockchains or other distributed ledgers so that they are interoperable across administrative domains, applications, and any other silo.
## Hyperledger Technical Scope

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Leadership

“2016 was full of growth for the organization and community. Not only did we exceed 100 members, Hyperledger met significant development milestones across our several Umbrella projects, thanks to the community’s hard work. As 2016 was a year of exploration, R&D and prototyping, we’re excited for 2017 to be the year we start to see case studies of Hyperledger Business Blockchain Technologies in production environments.”

Brian Behlendorf
Executive Director

Apache Web server – Primary developer
Apache Software Foundation – Founding member
Mozilla Foundation – BOD since 2003
Electronic Frontier Foundation – BOD since 2013
CollabNet – Founding CTO
World Economic Forum – CTO

Most recently, managing director at Mithril Capital Management LLC, a global technology investment firm
Governing Board

Comprised of one voting representative from each Premier Hyperledger member and attended by the TSC and Marketing Committee Chairs, the Governing Board’s responsibilities include:

- Approving a budget
- Electing a Chair to preside over Governing Board meetings, authorize expenditures approved by the budget and manage any day-to-day operations
- Overseeing all Project business and marketing matters

Blythe Masters
Governing Board Chair

Digital Asset – CEO

Digital Asset builds distributed, encrypted straight through processing tools to improve efficiency, security, compliance and settlement speed.

Blythe was previously a senior executive at J.P. Morgan, which she left in 2014 after a career spanning 27 years, following the successful sale of the bank’s physical commodities business which she built.

Named J.P. Morgan's head of Global Commodities in 2007, Blythe was responsible for building an integrated physical and financial commodity business, including market-making, structuring, risk management, financing and warehousing capabilities across the full spectrum of commodity asset classes.
Technical Steering Committee

The TSC is the technical governance heart and soul of the project. As new code bases get contributed to the project they get reviewed and approved by this committee.

Committing members appoint and vote the TSC Chair annually.

Meets weekly on Thursday, 10:00 AM to 11:30 AM ET

All are invited to attend these calls and encouraged to join the TSC mailing list for more information:

https://lists.hyperledger.org/mailman/listinfo/hyperledger-tsc

Chris Ferris
TSC Chair

IBM Distinguished Engineer and CTO Open Technology in the IBM Cloud organization

Involved in the architecture, design, & engineering of distributed systems for most of his 36+ year career

Actively engaged in open standards and open source development since 1999

Overall technical responsibility for all of IBM’s strategic open technology initiatives, including OpenStack, Cloud Foundry, Hyperledger Project, Open Container Initiative, Cloud Native Computing Foundation, Mesos, Node.js, Docker, and more
The Hyperledger Marketing Committee is open to all Hyperledger members and is charged with defining and executing the marketing and outreach strategy.

To date, the Committee has established four standing Working Groups – PR, Messaging, Events and Healthcare – and is exploring additional ones.

Dan O’Prey
Marketing Committee Chair

Digital Asset – CMO

Dan was the co-founder and CEO of Hyperledger, a San Francisco-based technology firm that developed an innovative distributed ledger to allow financial institutions to clear and settle transactions in real-time.

Prior to Hyperledger, Dan lived in Beijing where he founded and served as the CEO of MadeiraCloud (VisualOps), a visual cloud management and automation tool for Amazon Web Services.
Additional Community Working Groups

Working Groups are open to the public

- Technical Working Group, China (TWG - China)
- Architecture Working Group
- Requirements Working Group
- Identity Working Group
- Whitepaper Working Group
- Healthcare Working Group
Hyperledger Momentum

190+ Members (30+ in China)
9 Hyperledger projects
1 Production release Hyperledger Fabric v1.0
3.6M+ Lines of Code
49K+ Enrolled in 1st Edx course

Hosted the most popular webinar in history of The Linux Foundation on Hyperledger Fabric v1.0
91 Meetups Worldwide
25K+ Meetup Participants
35K+ Twitter Followers
1.5K+ Avg. monthly press mentions in 2017
Community and Ecosystem Engagement

Behlendorf is a regular keynoter and Hyperledger exhibits at cross-industry events.

Hyperledger Member Summit.

Active engagement with technology and finance journalists and analysts to continue educating the market on Hyperledger. hyperledger.org/news

Technical Steering Committee hosts regular online and face-to-face hackathons. Join our mailing lists to learn about these and other technical activities. hyperledger.org/community
Hyperledger Global Meetups

Hyperledger Meetups

We are 25k+ members across 91 Meetups
Join Your Industry Peers

Hyperledger Premier Members Serving on the Governing Board.

- Accenture
- AIRBUS
- American Express
- Baidu
- Change Healthcare
- Cisco
- Daimler
- Digital Asset
- DTCC
- Fujitsu
- Hitachi
- IBM
- Intel
- J.P. Morgan
- NEC
- SAP
- TradeShift
- Hyperledger
Join Your Industry Peers

General Members
1WorldBlockchain
8base
ABN Amro
Aetna
Agavon
AlphaPoint
Altoros Americas LLC
Aktiaselts Eurostep Digital
AMIHAN Global
ANNE
ANZ
B9lab
BBVA
Beijing Botuzongheng Science & Technology Co., Ltd.
Beijing RZXT Technology Development
Beijing Xiaomi Mobile Software
Belink Technologies
Bitmark
BitSE
Blockchain
Blockchain Training Alliance
BLOCKO Inc.
Bloc
BNP Paribas
Broadridge Financial Solutions
BTC
CA Technologies
Calastone
Capgemini
Centra Tech
Chain Connected
ChainNova
China Merchants Bank
China Minsheng Bank
CITIC
Clause, Inc
Cloudford Software Ltd.
CLS Bank International
CME Group
Cognition Foundry
Coinplug
CollectorIQ Inc.
Consensus Base Inc.
Cuscal Limited
Dealer Market Exchange
Deloitte Consulting LLP
Deutsche Börse Group
DLT Labs
Easy Visible Supply Chain Management
EBPI BV
Elementrem
Eli Lilly & Company
Embleema
Energy Blockchain Labs
Ernst & Young
Factom Foundation
Filament
FZG360 Network Co. Ltd
GameCredits
Gem
Gibraltar Stock Exchange (GSX)
Global Blockchain Technologies
GM Financial
Guardtime
GXChain
Hangzhou Fuzamei Technology
Hashed Health
Huawei
Hyperchain Technologies
Information Builders
IntellecEU
Kaiser Permanente
Korea Exchange
Korea Security Depository
Koscom
KrypC Corp
LedgerDomain
Libra
Loyyal Corporation
Lykke
MadHive
Majid Al Futtaim
Medicalchain
MetaX
MIRACL UK Limited
Monax Industries Limited
MonetaGo
Moscow Exchange
Murphy & McGonigle, P.C.
National Stock Exchange of India
Netki
New H3C Technologies
NEX Optimisation
Norblock
NTT Data
Oracle
Orange Magic Cube
Patiento
Paxos
PetroBlock
PDX Technologies
Pravici
PwC
R3
RadarWin Cyber Technology
Red Hat
Revelry Labs
Robert Bosch
Samsung SDS
Sberbank
ScanTrust SA
Schroder Investment Management Limited
SecureKey Technologies
Sempre IT
Shanghai Ginkoo Financial Technology
Shanghai Onechain Information Technology
Shenzhen Forms Syntron Information Shenzhen
Xingduo Technology CO., LTD
SWIFT
Swisscom AG
Tai Yi Yun
Tequa Creek Holdings
Tencent Cloud
Thales
Thomson Reuters
TMX Group Limited (TSX)
TradeIX Limited
Turkcell
United Traders
VitalHub Corp.
VMware
Wells Fargo
Wipro
YDreams Global
Yuphant Blockchain
Zhejiang Shuqin Technology
Beijing Smart Card Technology Research Institute
Ziggurat Technology
Join Your Industry Peers

Associate Members
Accord Project
Bank of England
Blockchain Research Institute
Chamber of Digital Commerce
Cloud Security Alliance
Colored Coins
IC3
IFSE
Infrachain
Mercy Corps
Ministry of Finance of the Republic of Lithuania
Nxt Foundation
OSCRE
Produce Marketing Association
Sovrin Foundation
Smart Dubai Office
Taiwan Fintech Association
Tecnalia Research & Innovation
TNO
University College London
University of Luxembourg

View the complete list of Hyperledger members.
Get Involved!

Ensure the strength and longevity of a core technology to your business.

Publicly proclaim your leadership in the blockchain space.

Work with other blockchain leaders to develop and promote Hyperledger blockchain for business technologies.

Visit hyperledger.org/about/join or email info@hyperledger.org.