Market, Technology and Community Update

Dan O'Prey, Chair of Hyperledger Marketing Committee and CMO Digital Asset
Tracy A Kuhrt, The Linux Foundation, Community Architect, Hyperledger

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Dan O'Prey - Hyperledger Marketing Committee Chair

Chief Marketing Officer at Digital Asset

Twitter: @danoprey
Tracy Kuhrt - Community Architect

20+ years of software engineering and architecture experience

- The Linux Foundation
- PayPal
- Microchip Technologies

Twitter: @TracyKuhrt

Hyperledger Rocket.Chat: @tkuhrt
# Agenda

1. **Introduction to Hyperledger: Blockchain Technologies for Business**
2. **What’s the big deal with business blockchain anyway?**
3. **Unique features of Hyperledger Fabric and Hyperledger Sawtooth**
4. **Get involved!**
We are helping global privacy and security through a program to encrypt the entire internet.

We are creating ecosystems around networking to improve agility in the evolving software-defined datacenter.

We are creating a portability layer for the cloud, driving de facto standards and developing the orchestration layer for all clouds.

We are creating the platform for infotainment in the auto industry that can be expanded into instrument clusters and telematics systems.

We are creating a permanent, secure distributed ledger that makes it easier to create cost-efficient, decentralized business networks.

We are providing the application development framework for next generation web, mobile, serverless, and IoT applications.

We are regularly adding projects; for the most up-to-date listing of all projects visit tlfprojects.org
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, manufacturing and technology
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

- Hyperledger Fabric
- Hyperledger Sawtooth
- Hyperledger Iroha
- Hyperledger Indy
- Hyperledger Burrow

**Tools**
Typically built for one framework, and through common license and community of communities approach, ported to other frameworks

- Hyperledger Composer
- Hyperledger Cello
- Hyperledger Explorer
- Hyperledger Quilt
What is a Distributed Ledger?

An append-only system of record or log of transactions.
What is a Smart Contract?

The code or any complex program stored and executed on a blockchain.
Myth Debunked: Blockchain ≠ Cryptocurrency

Cryptocurrency is an application that sits on top of blockchain. Not the other way around.
Why Business Blockchain Technologies

All over the global market there are ledgers that organizations and individuals alike must trust.
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# Cross-Border Payments

<table>
<thead>
<tr>
<th>The Challenge</th>
<th>Current system is slow, expensive, bureaucratic and error prone</th>
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<tbody>
<tr>
<td>The Collaboration</td>
<td>Global team from ANZ, BNP Paribas, BNY Mellon, SWIFT and Wells Fargo</td>
</tr>
<tr>
<td>The Technology</td>
<td>Hyperledger Fabric supports requirements of governance, data privacy, standardization, and identity. Real-time visibility of accounts eases reconciliation, delivering liquidity savings</td>
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Read about the POC in [Coindesk](https://coindesk.com).  
Hear about the collaboration in the [ANZ Community Spotlight video](https://www.anz.com/community-spotlight-video/).
Healthcare Records

| The Challenge | Records and data often spread across multiple institutions, hampering access |
| The Collaboration | Hundreds of companies in Hyperledger Healthcare Working Group collaborate on how to best apply blockchain |
| The Technology | Hyperledger Composer offers APIs, a modeling language and programming model to define and deploy business blockchain networks quickly. A healthcare wallet can empower patients and caregivers to control access to records. |
# Digital Identity

<table>
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<th>The Challenge</th>
<th>In 2017 only 44% of Filipinos used bank accounts, a figure suppressed by inefficient identity systems</th>
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<td>The Collaboration</td>
<td>Bankers Association of the Philippines, Hyperledger member Amihan and several banks, including AUB, BPI and Citibank</td>
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<tr>
<td>The Technology</td>
<td>Proof-of-concept implements self-sovereign identity with Hyperledger Indy. Consumers enter information once in a privacy-preserving way, and re-use that data to open new accounts. Banks can trust the data</td>
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*Read more about the Amihan use case for the Hyperledger Indy framework in The Manila Times.*
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New in Hyperledger Fabric v1.1

- Node JS Chaincode ([FAB-2331- Node.js Chaincode](#))
- Encryption Library ([FAB-830 - Encryption library](#))
- Attribute Based Access Control ([FAB-5346 - Attribute-based Access Control](#))
- Performance Improvements ([FAB-6421 - Performance improvements](#))

Experimental Features (only available if you build from source):

- Java Chaincode ([FAB-1973 Java Chaincode](#))
- Resource Based Access Control ([FAB-3621 Resource based ACL](#))
- Private Channel Data ([FAB-1151 Private channel data (aka Side DB)](#))
Hyperledger Sawtooth v1.0 Features

- Un-Pluggable consensus (Change consensus on the fly by transaction)
- Proof of Elapsed Time (PoET) consensus
- Write smart contracts in almost any language
- Ethereum contract support via Hyperledger Burrow integration
- Supply Chain example out of the box
- Parallel transaction execution for added throughput
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Free Introduction to Hyperledger Course

Blockchain for Business - An Introduction to Hyperledger Technologies

A primer to blockchain and distributed ledger technologies. Learn how to start building blockchain applications with Hyperledger frameworks.

https://www.edx.org/course/blockchain-business-introduction-linuxfoundationx-lfs171x
How you can get involved

- **Subscribe** to Hyperledger Mailing Lists
- **Attend** Hyperledger Hackfests and upcoming blockchain events
- **Get the latest development updates** from the wiki
- **Engage in the discussion** on Rocket.Chat
- **Search for Open Bugs, or Report a New One, in Our Bug Database**
- **Start or join a local Hyperledger Meetup**
- **Participate** in the Working Group meetings
- **Check out all the Hyperledger business blockchain technologies and download our codebases**
WHO WILL YOU TRUST WITH YOUR TRUST NETWORK?