
# Datacoins and a new data paradigm of open computing

## A p2p cloud computing platform built on top of the Storecoin zero-fee public blockchain.

April 2019

# Why does this matter?

By 2025, it is estimated that world will emit 175 zettabytes of data, 5x more data[1] than today. This would be over 43 Trillion DVDs!

Tokenization that creates incentives for data to be structured, discovered, and tradable could transform computing.

The Storecoin p2p cloud computing platform will enable data to be tokenized, open, and tradable. Storecoin will transform data into p2p money -- into data-backed tokens called *datacoins*.

Each time a third party wants to crawl, query, or search the tokenized data, they'll pay Storecoin dWorkers (miners) and the developers building on top of the Storecoin public blockchain for access to the tokenized data using the datacoin. Developers can then, if they wish, pay users, creating an opening for new business model experiments and a new era of *open computing*.



[1] https://www.seagate.com/our-story/data-age-2025/

# Tokenized, open data will limit the control data monopolies have on future innovation while ushering in a new era of computing.

## Datacoins will set data and information free.

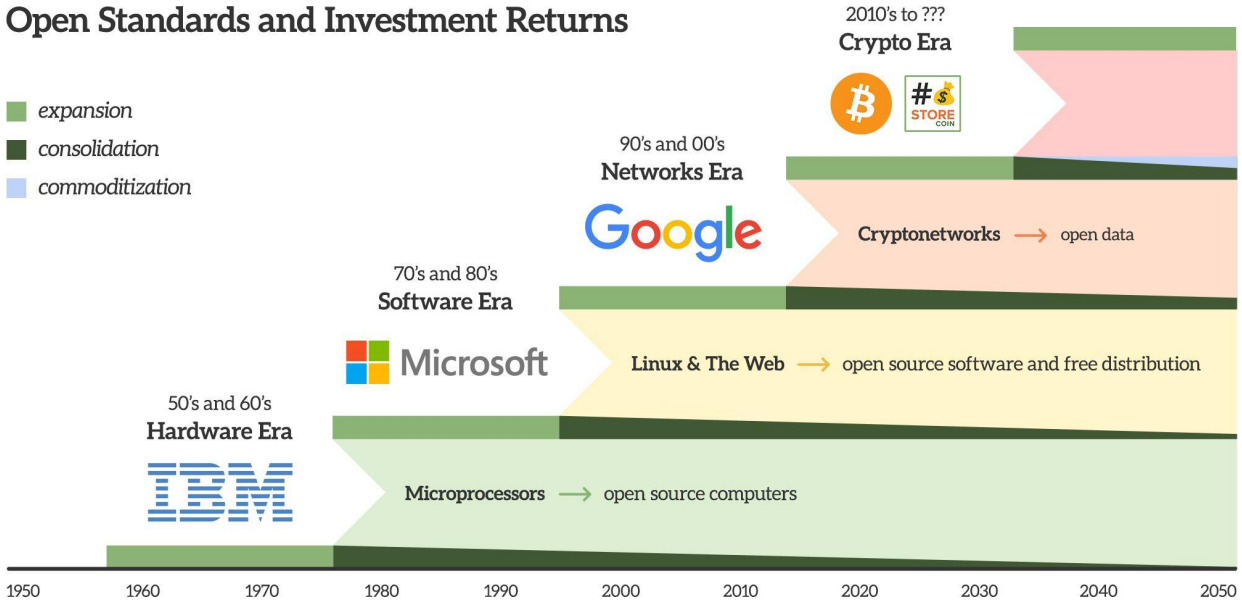
# The market is hungry for a different economic relationship with data



"AWS is a tax on the compute economy...Whether you care about mobile apps, consumer apps, IoT, SaaS etc, more companies than not will be using AWS versus building their own infrastructure. For example, 100% of Social Capital companies use AWS and it represents 16% of their total expenses. If you believe that over time the software industry is a multi, deca-trillion dollar industry, then ask yourself how valuable a company would be who taxes the majority of that industry."

- **Chamath Palihapitiya, CEO of Social Capital**

# Previous cryptonetworks understood that tokens can change relationship between network owners and data creators, but by seeking to print new monies, designed their tokens incorrectly

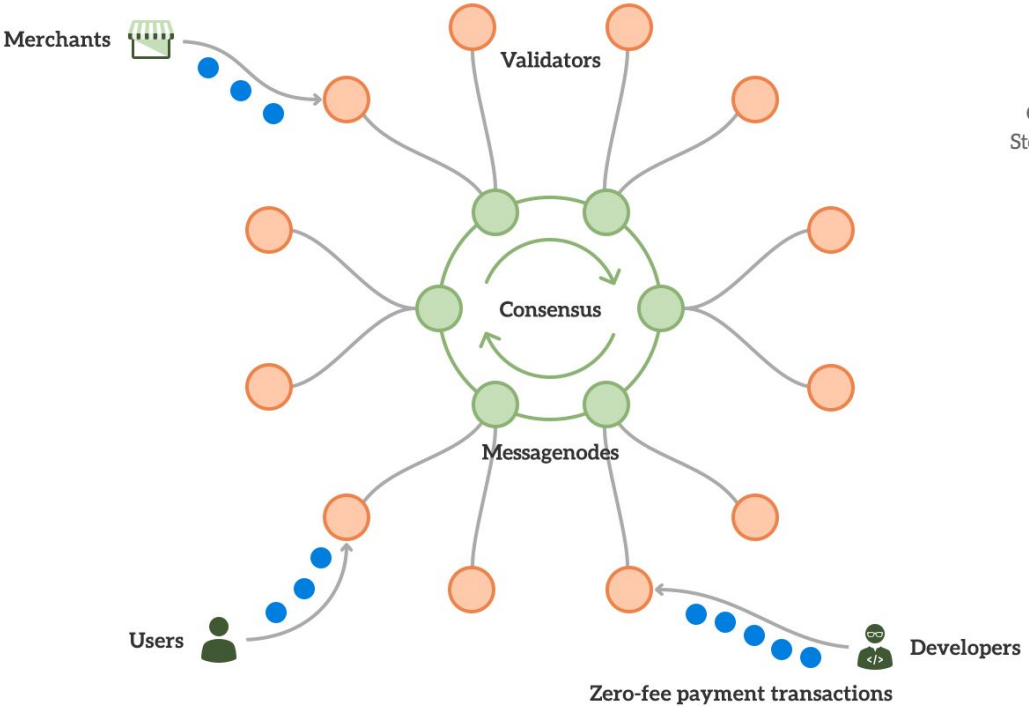


# Data is the valuable resource in networks.
# Tokens that are backed by and represent data will enable us to design new economic flows that disrupt the current data monopolies


**Storecoin is building the p2p cloud compute platform that leverages data-backed tokens (*datacoins*) to transform the economics of data. Here's how it works**

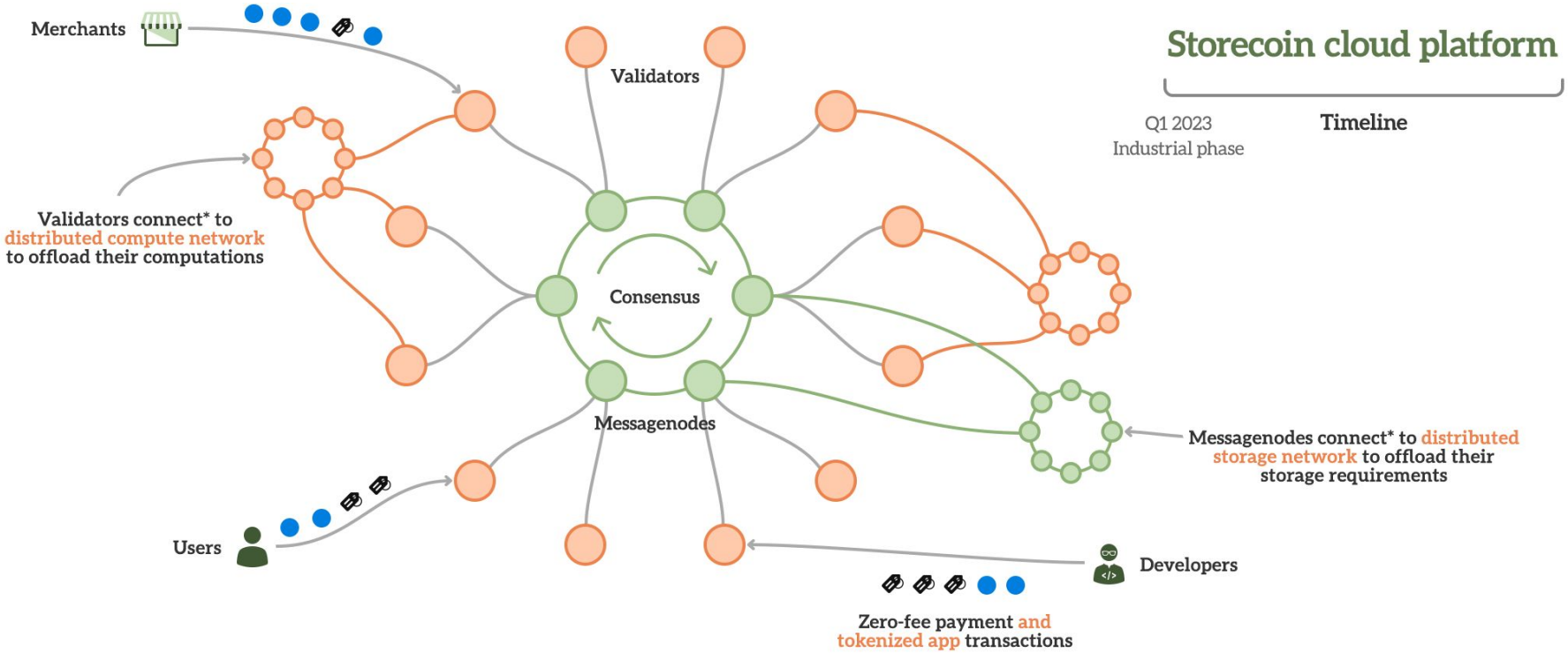
# Overview of Storecoin's settlement layer

In the zero-fee settlement base layer, Storecoin public blockchain processes zero-fee payment transactions sent by end users, merchants, and developers.




# Storecoin's p2p cloud platform runs tokenized apps (tApps)

The p2p cloud platform processes both base layer payment transactions and *tokenized app* transactions.

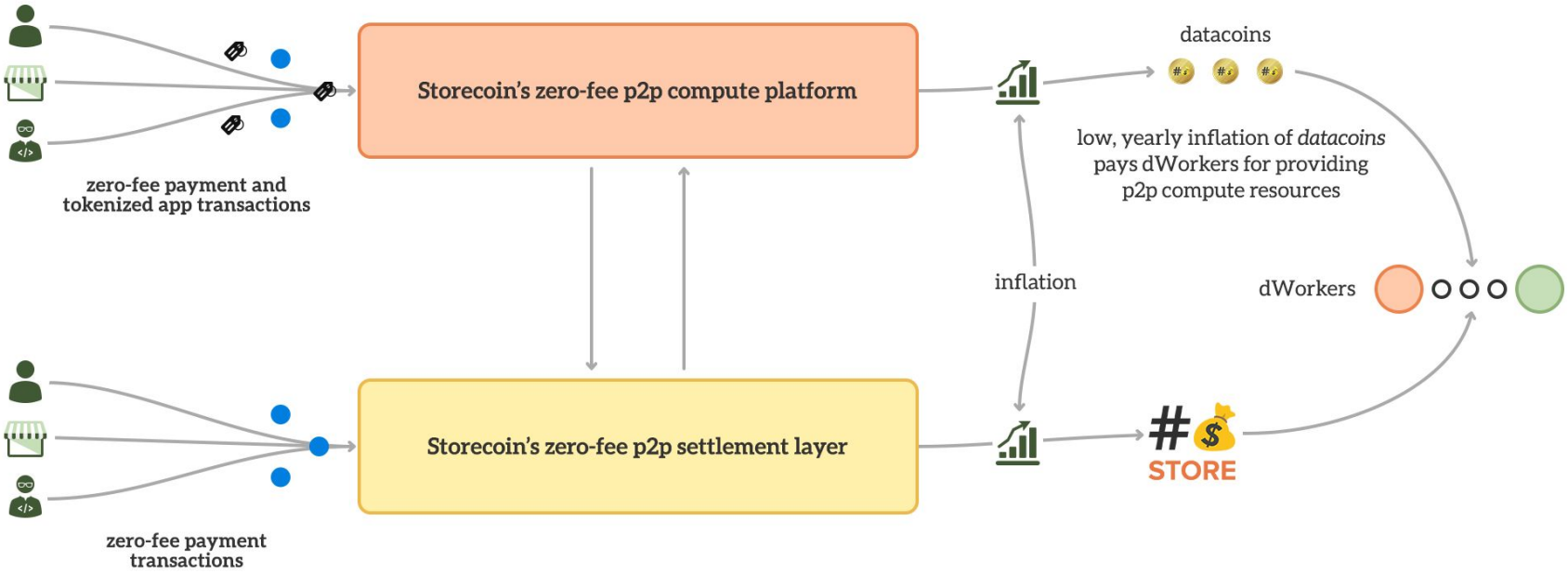




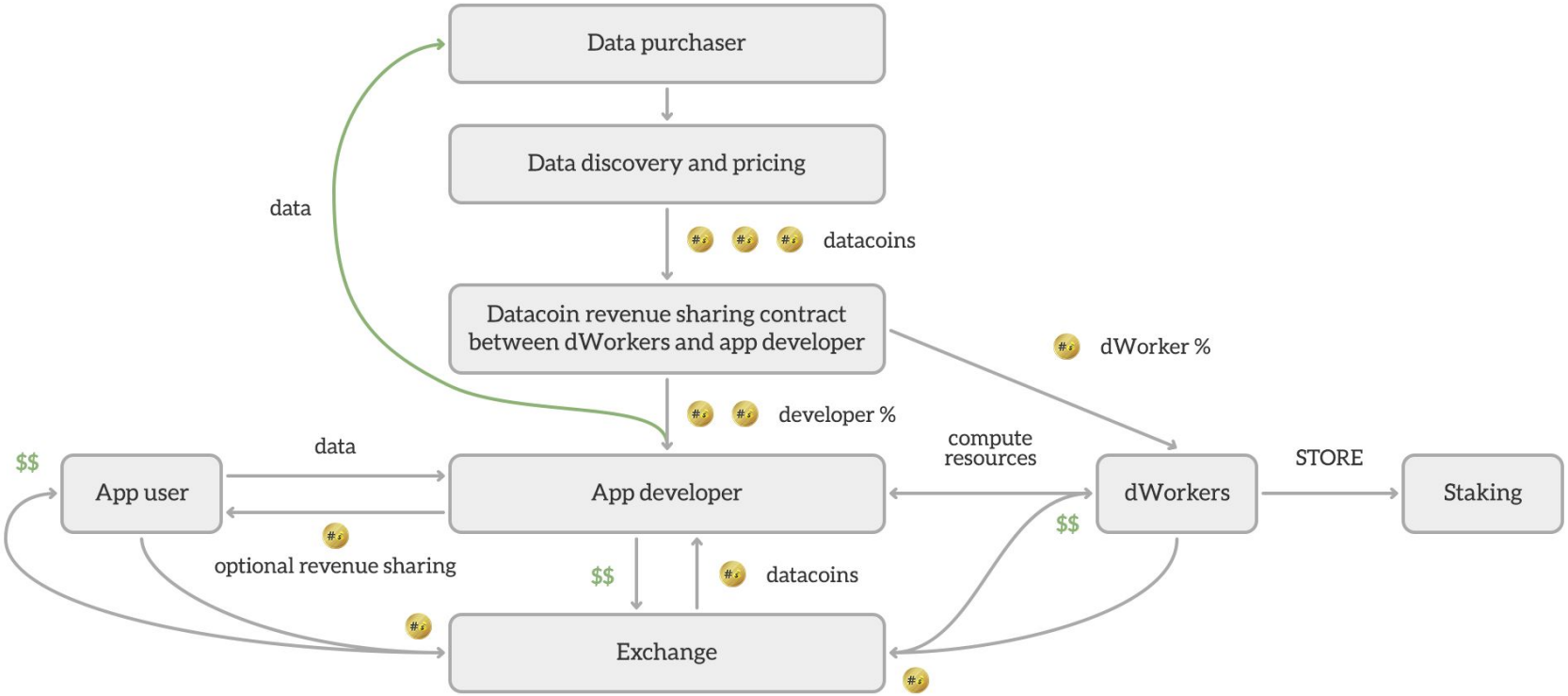

* For simplicity, only some Validators and Messagenodes are shown connected to distributed compute and storage networks.

# Zero-fee p2p cloud platform secured by credibly low inflation

dWorkers in the base, settlement layer are paid for with low inflation of STORE. In the p2p cloud platform, dWorkers are paid for with low inflations of STORE and datacoins built on top of it.

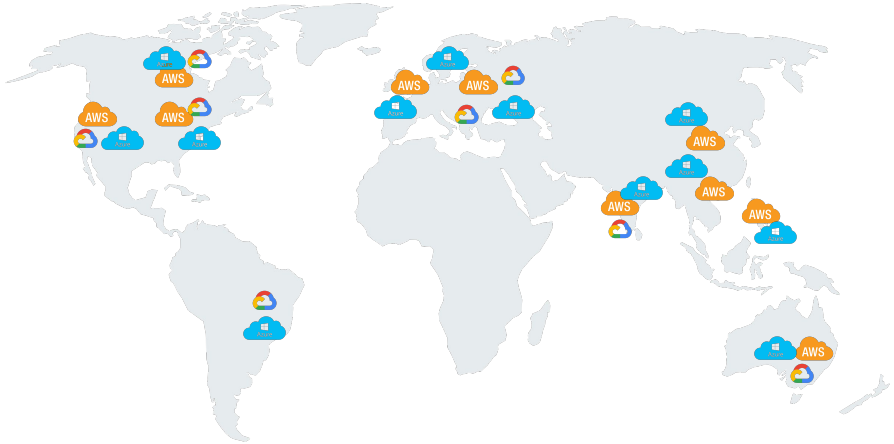


# Datacoins align incentives between those who host & secure the network and the app developers



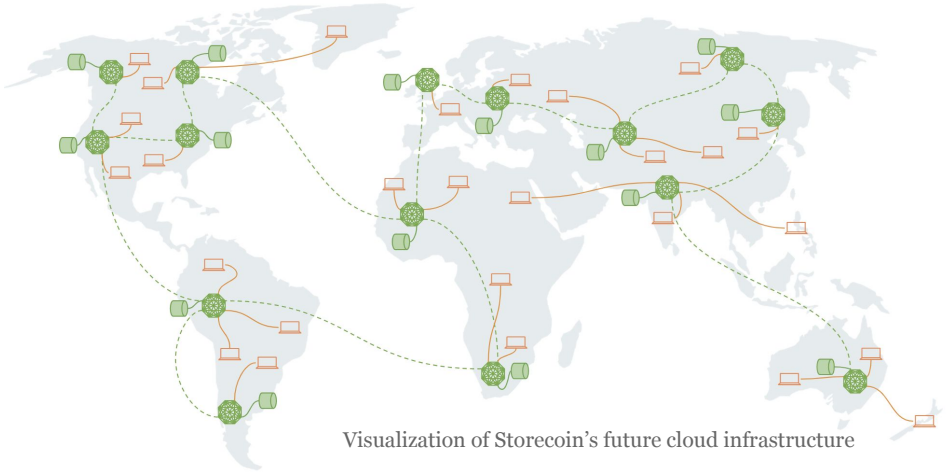
# Comparison to centralized app platforms

## Apps hosted on cloud platforms like AWS and Azure today




- App developers host their apps on cloud platforms like AWS, Google cloud, Microsoft Azure, etc. Other centralized services like Facebook have their own distributed datacenters where their apps are hosted.
- Revenue is generated from third parties
- App developers pay the cloud service providers
- The services are typically free for end users
- The data is silo'd to respective apps and their partners
- End users are generally not rewarded for their data

## Apps hosted on the Storecoin tokenized cloud platform



Visualization of Storecoin's future cloud infrastructure

- App developers host their tokenized apps on the Storecoin tokenized cloud, which in turn may use other cloud service providers for storage, computation, and bandwidth needs
- Third parties provide revenue through payments for access to data
- App developers share their revenue with dWorkers, who are paid with the app tokens
- The services are typically free for end users
- Because of tokenization, the data can be traded among tokenized apps
- App developers, who are refiners of the user data, may choose to reward users for their data

# Our Team

## Team Members

**Chris McCoy** (Co-Creator, Product)
One of Marc Andreeseen's *55 Unknown Rockstars in Tech*

**Rag Bhagavatha** (Co-Creator, CTO)
Helped scale Apple's iCloud, Cisco's WebEx, and more

**Antone Johnson**
General Counsel

+15 others

## Advisors

**Ari Paul**
Co-Founder and CIO of Blacktower Capital

**James Staten**
former GM+Chief Strategist of Microsoft Cloud

**Mark Ramberg**
Former GM of Amazon Web Services, Media and Entertainment

**Matt Ocko**
Venture Capitalist at Data Collective

**Michael Terpin**
Founder and CEO of Transform Group

**Simon Yu**
CEO and Co-Founder of Storm

**Stephen McKeon**
Economics and Finance professor at Oregon

**Nate Lubin**
Former digital director for the Obama White House

**Noah Ruderman**
Former infrastructure engineer at Facebook

## Partners

MESSARI
Public Disclosures Partner

Zuber Lawler & Del Duca
Securities law firm

CUMBERLAND
OTC Partners

CIRCLE
OTC Partners

# Our investors

BLOCKTOWER

ALPHABIT

Neural Capital

Matt Ocko

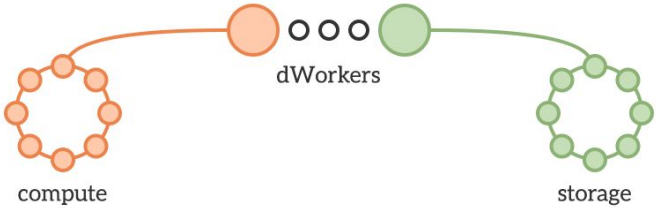
*Co-Managing Partner and co-founder of Data Collective*

PALM DRIVE CAPITAL

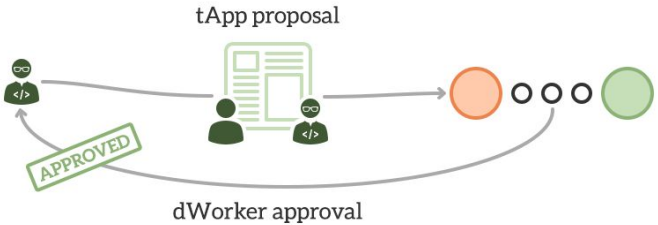
# Appendix: P2P Cloud Platform Deep Dive

# Storecoin’s p2p cloud platform — how it works

Storecoin dWorkers provide compute and storage services to host tokenized apps. In exchange for their services, dWorkers demand to be compensated in *datacoins*.



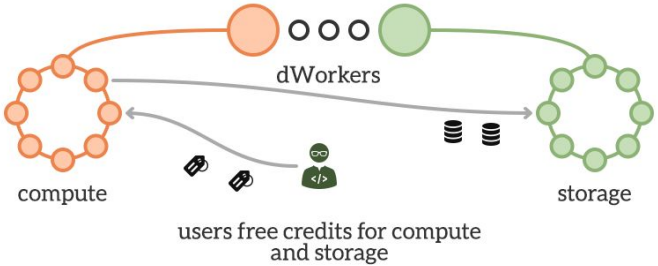

**1/** dWorkers provide compute and storage resources and host tokenized apps.




**2/** App developers submit their proposals to dWorkers describing their apps, how the app data is valued and monetized, and so on.. dWorkers review the submited proposals periodically and approve or deny the apps based on their review.

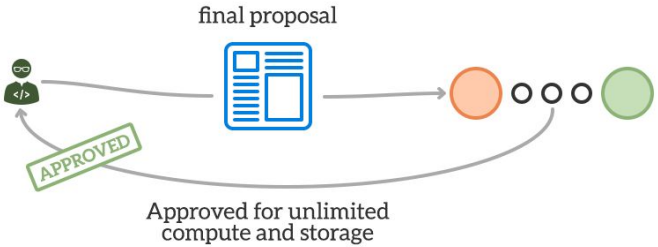
# Storecoin's p2p cloud platform — how it works

App developers use the bootstrap credit to develop and deploy their tApps on Storecoin Platform. When the app is *production ready*, the developers submit the *final proposal* for *unlimited* compute and storage credits.




**3/** The approval also grants the app developers free compute and storage credits for a predefined duration, such as 1 year. dWorkers act as early stage investors for startups, akin to Y Combinator and AWS/Azure credit programs.

Once approved, app developers can develop, test, deploy, and run their tokenized apps using the approved credits.

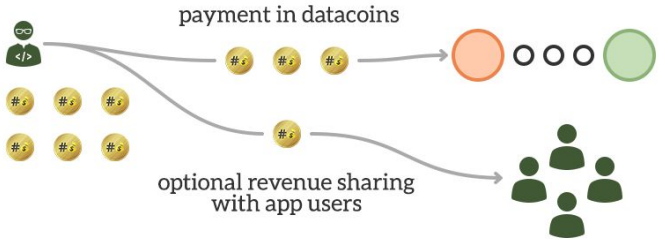



**4/** App developers submit their *final* proposal during or at the end of the free credit period for unlimited compute and storage credits. dWorkers approve or deny the final proposal based on the monetization potential of the app. An inflation schedule for the associated *datacoin* and the schedule for pre-mining by the app developers are also published.

# Storecoin p2p cloud platform — how data is requested and paid?

Data *buyers* discover, pay, and access the decentralized app data via Storecoin Platform APIs. App developers share the revenue, in *datacoins*, with dWorkers to compensate for their services.


**5/** Since the app's datacoin is approved, it can be used in the base layer settlement for payment transactions. The buyer of the decentralized data uses the Storecoin Platform APIs to discover the app data and negotiate a price for the data in app's datacoins. Once the negotiated payment is completed, the buyer can access the data using the provided authorization token. If there is a demand for the app data, the underlying datacoins will also be in demand and appreciate in value.

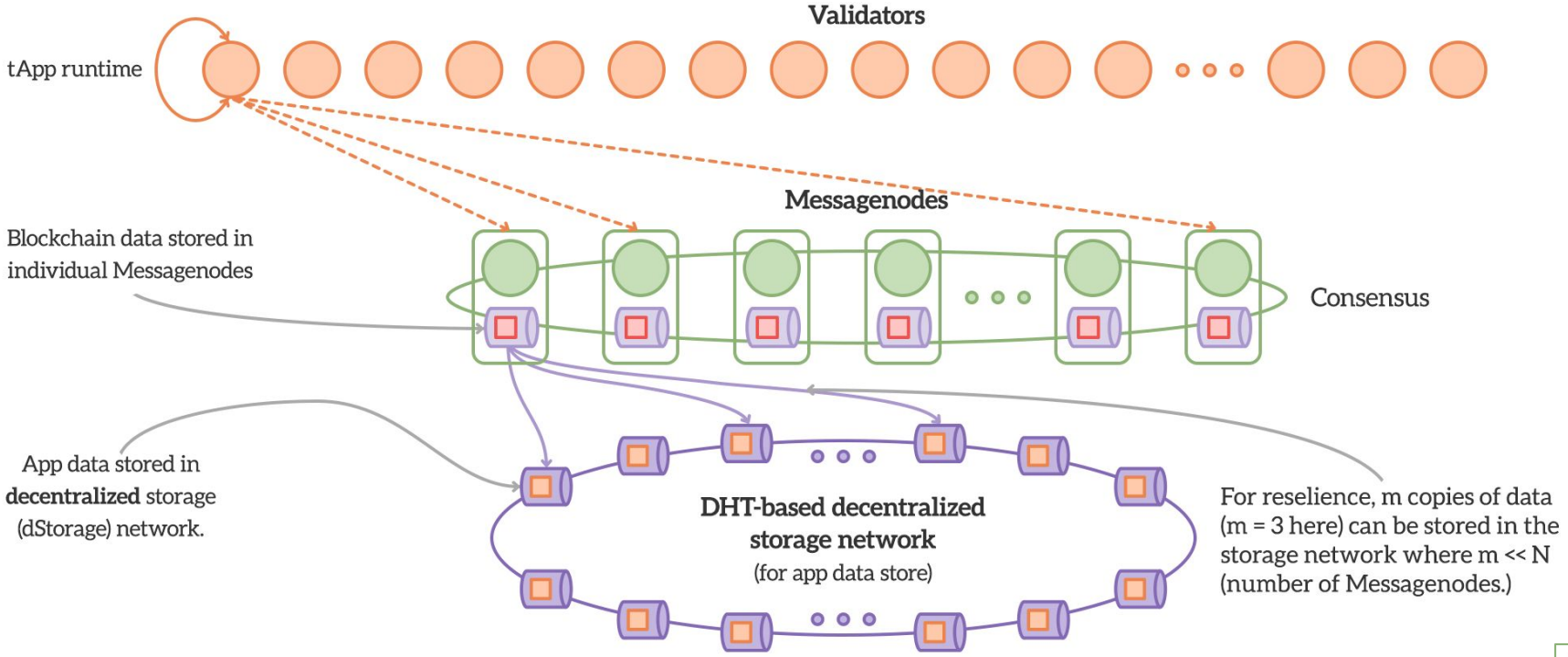



**6/** App developers share their revenue with dWorkers in their app datacoins. By default, dWorkers are paid 30% of the app revenue.

In addition, the app developers can optionaly share the revenue with the app users, who create the data in the tokenized apps.

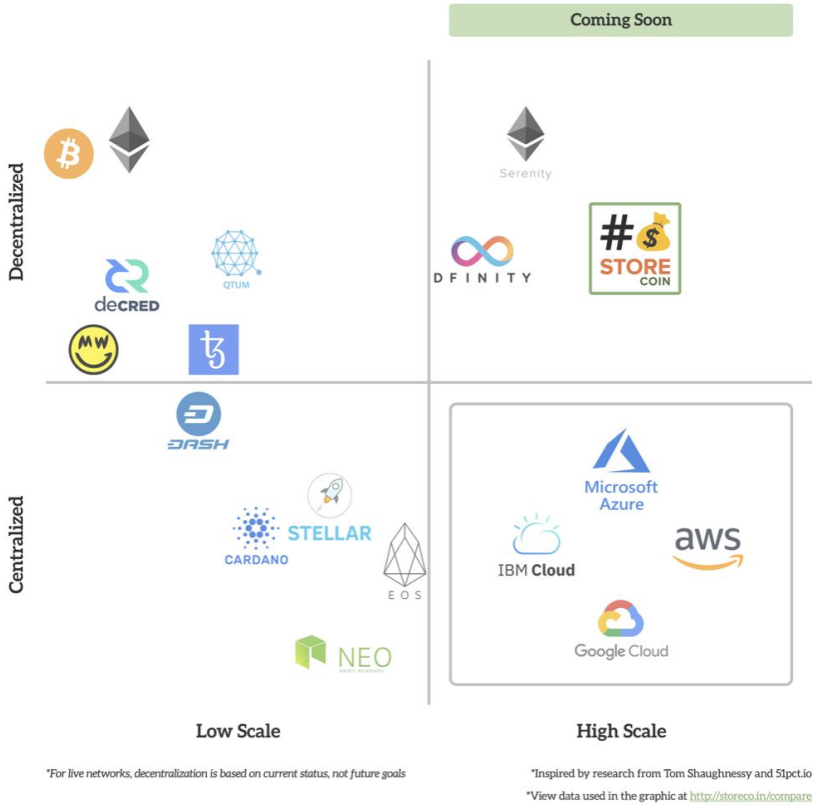
# Storecoin p2p cloud — network and storage architecture

Validators provide runtime environment to execute tApps and Messagenodes provide storage to store app data



# Appendix: How this differs from other platforms

# How Storecoin compare to other protocols and cloud providers



# How is this different from smart contract platforms like Ethereum?

- First, Storecoin is not a *smart contract* platform.
- Storecoin removes the second layer of decentralization. Instead of requiring developers to build on top of an experimental and fee-driven Web3 — a new internet — Storecoin developers decentralize their data directly into the protocol layer. Tokenized apps run on the public internet. Users, sellers, and buyers have zero-fees for making transactions.
- Unlike ERC20 tokens, which are not accepted at the base layer as a form of payment to the Ethereum dWorkers, Storecoin dWorkers will demand payment in datacoins as a secondary compensation (in addition to base layer STORE) for securing and hosting the decentralized data. Datacoins therefore have value as new, data-backed currencies.
- The compute and storage resources are provided by dWorkers who will be compensated for their services with datacoins and/or base layer STORE based on the resources used by the app. This is different from the “state rent” approach used in Ethereum where this rent is required on a per transaction basis. Storecoin’s approach removes this runtime overhead with a predictable model described above.

# How is this different from Filecoin?

- Filecoin and similar projects decentralize storage and turn cloud storage into an algorithmic market. The market runs on a blockchain with a native protocol token, which dWorkers earn by providing storage to clients. Conversely, clients spend the native token hiring dWorkers to store or distribute data.
- Storecoin p2p cloud is not about decentralized file storage, but about decentralized app execution and app data marketplace platform.
- In Filecoin, the storage capacity can be provided by anyone in exchange for payments in the native token.
- In Storecoin p2p cloud platform, dWorkers provide the compute and storage resources. In return for their services, dWorkers agree to be compensated in the app specific datacoins and base layer STORE.
- Storecoin p2p cloud is similar in storage architecture. Filecoin uses IPFS to store and find distributed content. Storecoin's storage architecture similarly uses distributed hash table (DHT) to distribute and find the app data stored in the databases on the DHT nodes.
- Storecoin p2p cloud platform brings developers, data creators, data buyers, data aggregators, and infrastructure providers together to build the decentralized data marketplace.

# Appendix: Why we anticipate developer interest

# Why will the best developers in the world build on Storecoin?

1. Developers have no server or cloud computing costs -- 10%-20% of their costs go away!
2. They can mint a token for their app that is -- unlike ERC20s -- demanded as a payment by dWorkers
3. Once demanded by dWorkers, it's likely their users will value it as a currency inside of the app
4. Developers have a native cryptocurrency that can be used for in-app payments, incentives, and more
5. With approval by dWorkers, developers can pre-mine tokens which can help to fund app development
6. Developers decentralize their data but do not need to decentralize their entity -- they can sell equity
7. Developers are paid their own datacoins when third parties access their data from the blockchain
8. Developers can access data generated by their app -- at no cost
9. Developers can optionally pay users for third-party data revenues thus potentially boosting adoption
10. Once credentialed by dWorkers through a formal vote, building on Storecoin is a new high-status badging system like a YCombinator -- the value of the developer's company/app will grow because of it

# Appendix: Timeline

# R&D and preparation for the testnet launch in Q1 2020

| Release Age | Type | Est. Launch Date | # of Nodes | **Est. cost to run a node (annual) | ***Est. Yield | ****Security Budget / *****Inflationary Rewards (yearly) | Governance (the path to decentralization) |
|---|---|---|---|---|---|---|---|
| Genesis | R&D with public peer reviews | May 2017 to Q4 2019 | None: R&D | None: R&D | None: R&D | None: R&D | 8-year vesting on founders; milestone-based token sales-only; a 6-month public peer review on our governance proposal; Storecoin joins the Messari registry for public disclosures on Treasury; a long-term Treasury Schedule is released allowing for predictable maximum yearly emissions; all decisions are made by Storecoin, Inc. but the public peer review network acts as a check and balance on changes. |

Storecoin open sources its economic model projections for each launch phase – from its zero-fee settlement layer to its zero-fee computing platform. These models account for dWorker costs of hardware, compute, data storage, internet connectivity, load balancers, firewall, and more. The models back into potential break-even requirements and potential gross profits for dWorkers which are derived from the Yield – the annualized tokens earned relative to the estimated dWorker stake size and the active security budget for the blockchain.

* To build your own Yield models, start at http://storecoin.com/stakingeconomics

**STORE tokens are securely distributed to owners.**

**Storecoin's ecosystem releases Wallet, staking tools, and more to launch the p2p protocol.**

# Phased approach to production launch

| Release Age | Type | Est. Launch Date | # of Nodes | **Est. cost to run a node (annual) | ***Est. Yield | ****Security Budget / *****Inflationary Rewards (yearly) | Governance (the path to decentralization) |
|---|---|---|---|---|---|---|---|
| **Stone** | Test network *Zero-fee, p2p settlement-layer* | Q1 2020 | 70 Validators 22 Messagenodes | N/A (Test network) | N/A (Test network) | N/A (Test network) | Storecoin, Inc. transfers all assets and intellectual property over to the Storecoin non-profit foundation. Storecoin, Inc. entirely spins down and ceases to exist. |
| **Bronze** | Alpha network *Zero-fee, p2p settlement-layer* | Q2 2020 | 70 Validators 22 Messagenodes | $25,300 / Validator $38,000 / Messagenode | 9.62% / Validator 31.53% / Messagenode | 20% / A maximum of 20 Million STORE (2%, pegged to security) | At public launch, founding miners (dWorkers) win auctions to stake the limited # of seats in Storecoin's consensus. Backup workers are also introduced so backups can fill in seamlessly. The winning backups can step right in. The winning dWorkers and the backup workers all privately Know-Your-Voter (KYV) accreditate with one another to prevent Sybil attacks on Storecoin's intended one-entity, one-vote decentralized governance, which is also designed to limits cartels and vote buying. |
| **Iron** | Beta network *Zero-fee, p2p settlement-layer* | Q4 2020 | 102 Validators 32 Messagenodes | $25,300 / Validator $39,500 / Messagenode | 6.60% / Validator 21.62% / Messagenode | 25% / A maximum of 20 Million STORE (2%, pegged to security) | With minimum viable security in place, the blockchain grows the # of miners securing it. Github-based voting infrastructure enables Open Voting by miners on relevant issues that arise before governance is formally ratified. |

# Each phase adds more dWorkers thus improving decentralization

| Release Age | Type | Est. Launch Date | # of Nodes | **Est. cost to run a node (annual) | ***Est. Yield | ****Security Budget / *****Inflationary Rewards (yearly) | Governance (the path to decentralization) |
|---|---|---|---|---|---|---|---|
| **Discovery** | Production network *Zero-fee, p2p settlement-layer* | Q2 2021 | 137 Validators<br>43 Messagenodes | $25,300 / Validator<br>$41,100 / Messagenode | 4.92% / Validator<br>16.14% / Messagenode | 30% / A maximum of 20 Million STORE (2%, pegged to security) | The Open Vote by miners continues. The Storecoin organization owning the IP and trademarks moves to formally ratify the p2p governance proposal approved by the multi-year public peer review. |
| **Storecoin pursues ratification of its checks and balances governance proposal with its dWorkers (the voters)** | | | | | | | |
| **Revolution** | Production network *Zero-fee, p2p settlement-layer* | Q1 2022 | 253 Validators<br>80 Messagenodes | $25,300 / Validator<br>$46,600 / Messagenode | 2.66% / Validator<br>8.73% / Messagenode | 51% / A maximum of 20 Million STORE (2%, pegged to security) | A vote to ratify Storecoin's proposed governance has occurred. If ratified, then all decisions moving forward will be fully decentralized through a one-entity, one-vote governance of checks and balances. Storecoin would move from Open Vote to a Decentralized Vote carried out via a fully decentralized independent infrastructure.<br><br>**Storecoin would be fully decentralized.** |
| **The path to zero-fee, p2p computing (*Platform*) begins with a test network** | | | | | | | |

# Storecoin p2p settlement to p2p compute platform

| Release Age | Type | Est. Launch Date | # of Nodes | **Est. cost to run a node (annual) | ***Est. Yield | ****Security Budget / *****Inflationary Rewards (yearly) | Governance (the path to decentralization) |
|---|---|---|---|---|---|---|---|
| **Industrial** | Production network *Zero-fee, p2p cloud computing platform* | Q4 2022 | 253 Validators 80 Messagenodes | N/A (Test network) | N/A (Test network) | N/A (Test network) | Governance is functioning as intended through one-entity-one-vote ratification. If no ratification has occurred, Storecoin will become an organization similar to the Ethereum Foundation: A single body will have full control over commit-access to the code base, to Treasury for the ecosystem, to Treasury for funding engineers and operations, more. |
| **Storecoin's decentralized governance would need to approve *Platform* before deployment** | | | | | | | |
| **Imagination** | Production network *Zero-fee, p2p cloud computing platform* | 2023 | 281 Validators 89 Messagenodes | $88,700 / Validator $1,900,000 / Messagenode | 2.40% / Validator 7.86% / Messagenodes | +51% / A maximum of 20 Million STORE (2%, pegged to security) | If a one-entity, one-vote governance is in place, STORE will be on a path to zero-fee global money and to zero-fee global compute. |

*NOTE: To build your own economic models for ToTR across any phase, visit [http://storecoin.com/stakingeconomics](http://storecoin.com/stakingeconomics)*

**Buy STORE to be mine data of the future tokenized internet, IoT devices, governments, and beyond.**