DISPATCH

Data-centric protocol for creating fast, scalable and secure decentralized applications with no transaction fees

Overview

Data is the most valuable commodity in the world.

Data powers the world's most influential companies, from Facebook to Google to Amazon. Yet, there is no alternative to using cloud services to host and manage that data, ceding control of users' data to large centralized companies.

Dispatch is the first fully data-focused shared ledger protocol to manage governance on-chain and data off-chain. Dispatch has no transaction fees, stores unlimited amounts (and types) of data, and is backward compatible with Ethereum.

From entrepreneurs to enterprise, Dispatch provides a scalable solution for developing and managing data-centric decentralized dApps.

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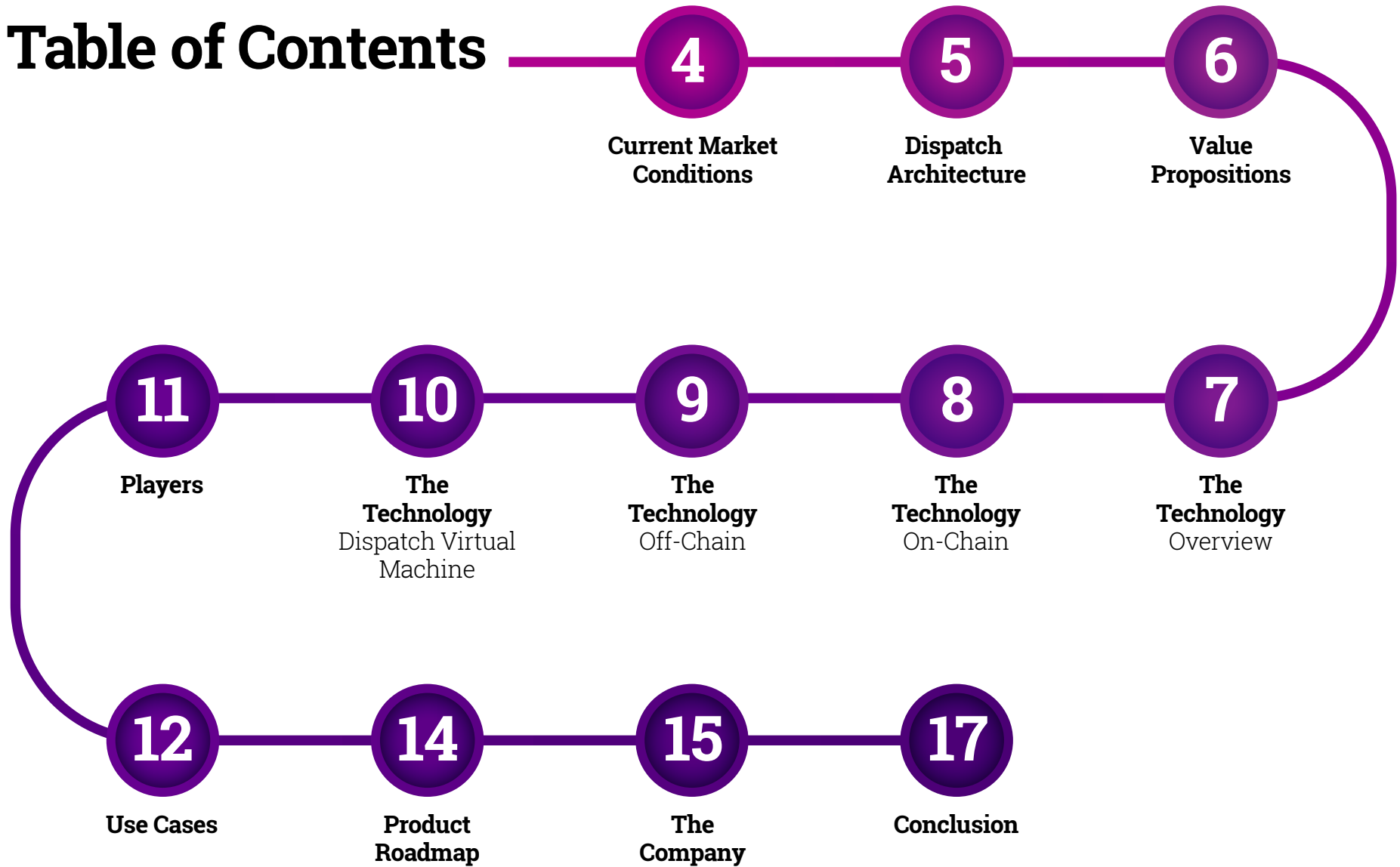
Current Market Conditions

Current development protocols on the market today offer one, maybe two of the dApp Development environment, Data Storage or Scalability. Nobody provides functionality for all three.

The Dispatch Difference

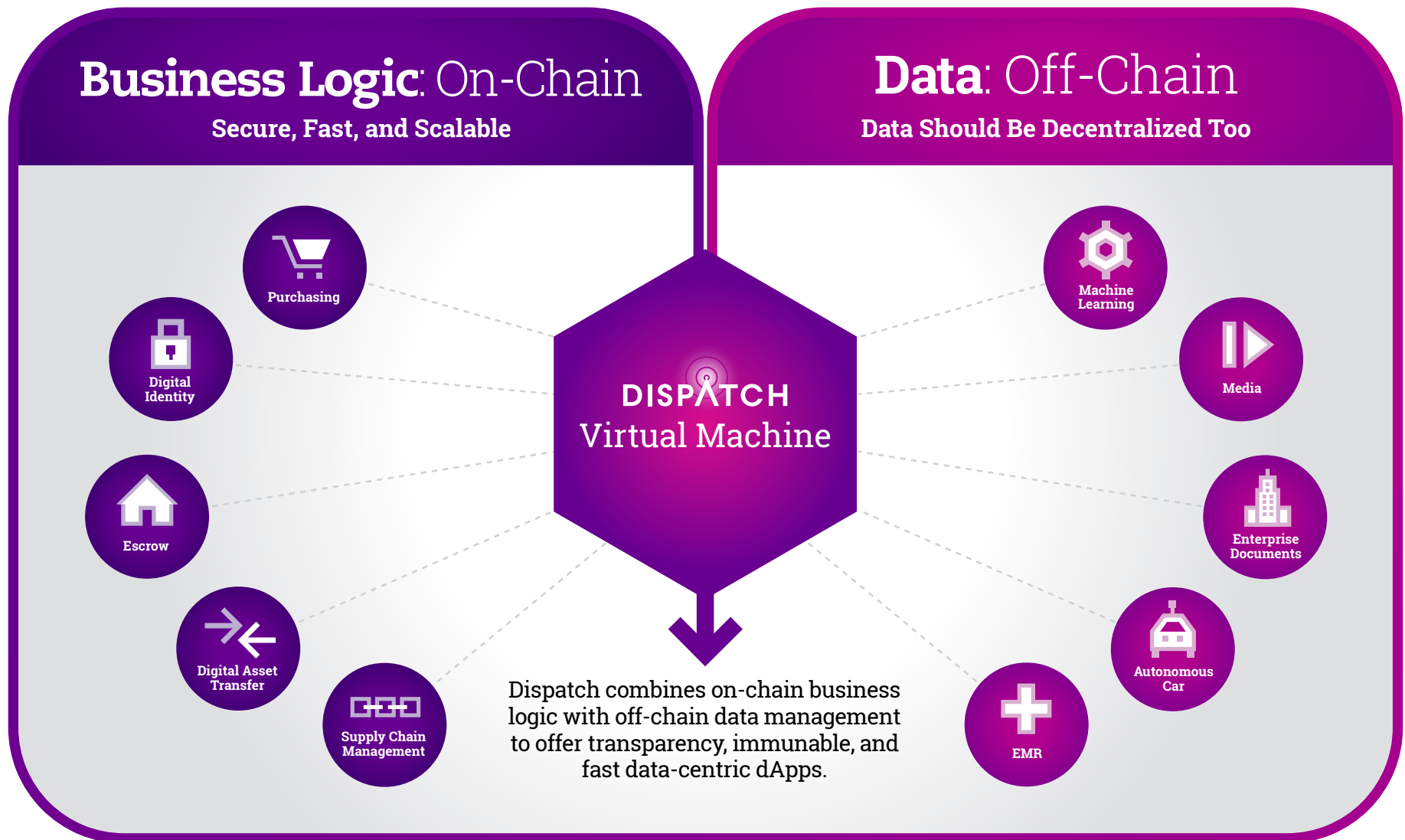### Combines an integrated solution for all categories

and

Trusted data-centric analytics

The Dispatch protocol combines business logic through smart contracts and a new algorithm called Delegated Asynchronous Proof of Stake, with innovative, decentralized data management on our Dispatch Artifact Network. This results in a power platform that is fast, scalable and secure for entrepreneurs and enterprise alike.

dApp Development

Data Storage

DISPATCH

Scalability
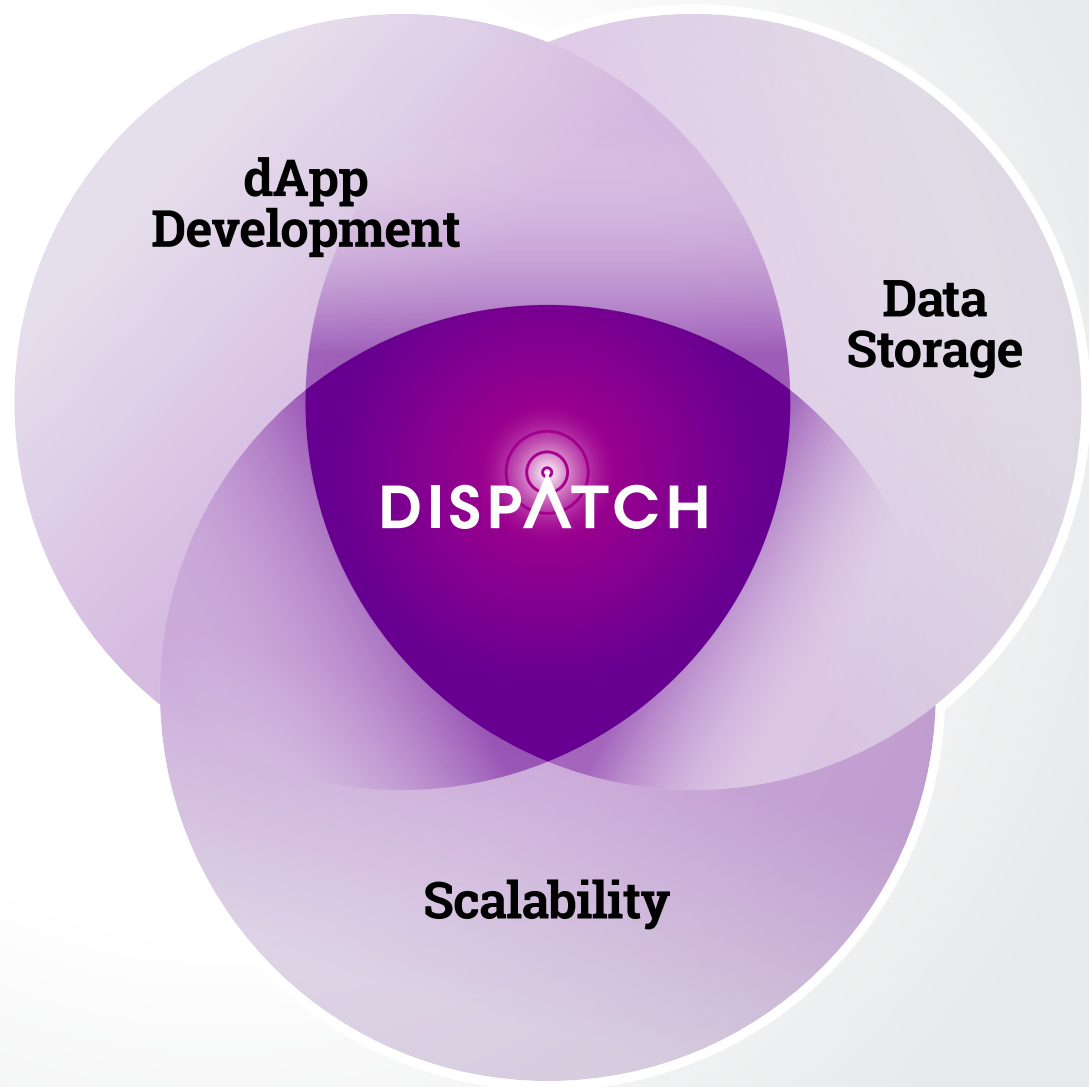
Dispatch Architecture

The Dispatch platform is best understood wtih its on-chain business logic combined with its off-chain data management with the Dispatch Virtual Machine tieing it all together. The overall architecture gives entrepreneurs to enteprise the tools necessary to build fast, scalable and secure dApps with no transaction fees in one blockchain protocol.

Business Logic: On-Chain
Secure, Fast, and Scalable

Purchasing

Digital Identity

Escrow

Digital Asset Transfer

Supply Chain Management

Data: Off-Chain
Data Should Be Decentralized Too

Machine Learning

Media

Enterprise Documents

Autonomous Car

EMR

DISPATCH
Virtual Machine

Dispatch combines on-chain business logic with off-chain data management to offer transparency, immunable, and fast data-centric dApps.

Value Propositions ──

dApps are decentralized. Data should be too.
First-generation dApps were constrained by speed, cost, and lack of data management. The Dispatch Artifact Network (DAN) fixes that problem elegantly, minimizing impact on transaction validation since artifacts aren't written directly to the blockchain.

Ecosystem is everything.
Dispatch is focused on building a thriving ecosystem around our new protocol. From launching a developer certification program, to an app store, to special events, to finding great partnerships with other organizations, community is a big priority for us.

A protocol should scale with Moore's Law.
Dispatch features a new consensus method, Delegated Asynchronous Proof of Stake, or DAPoS. Invented by Dispatch's Chief Technical Officer Zane Witherspoon, DAPoS maintains a decentralized shared ledger but removes blocks and block-times. It handles transactions individually and pushes them through a delegated group of nodes, allowing for fast and secure transaction processing with no theoretical maximum speed.

We only have one planet.
Dispatch is optimized to use very little energy. Nodes collaborate instead of competing, eliminating unnecessary work to validate transactions.
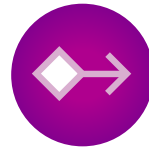
Migration is easy.
Dispatch offers all of Ethereum's features and functionality, and provides developers with additional controls and functionality to take their work to new heights, without gas or scalability concerns. Migrating existing smart contracts over from Ethereum is easy!

Analytics are a must.
Data is the most valuable commodity, but data integrity with security, transparency and real-time gives business intelligence and compliancy without compromising trust. priority for us.
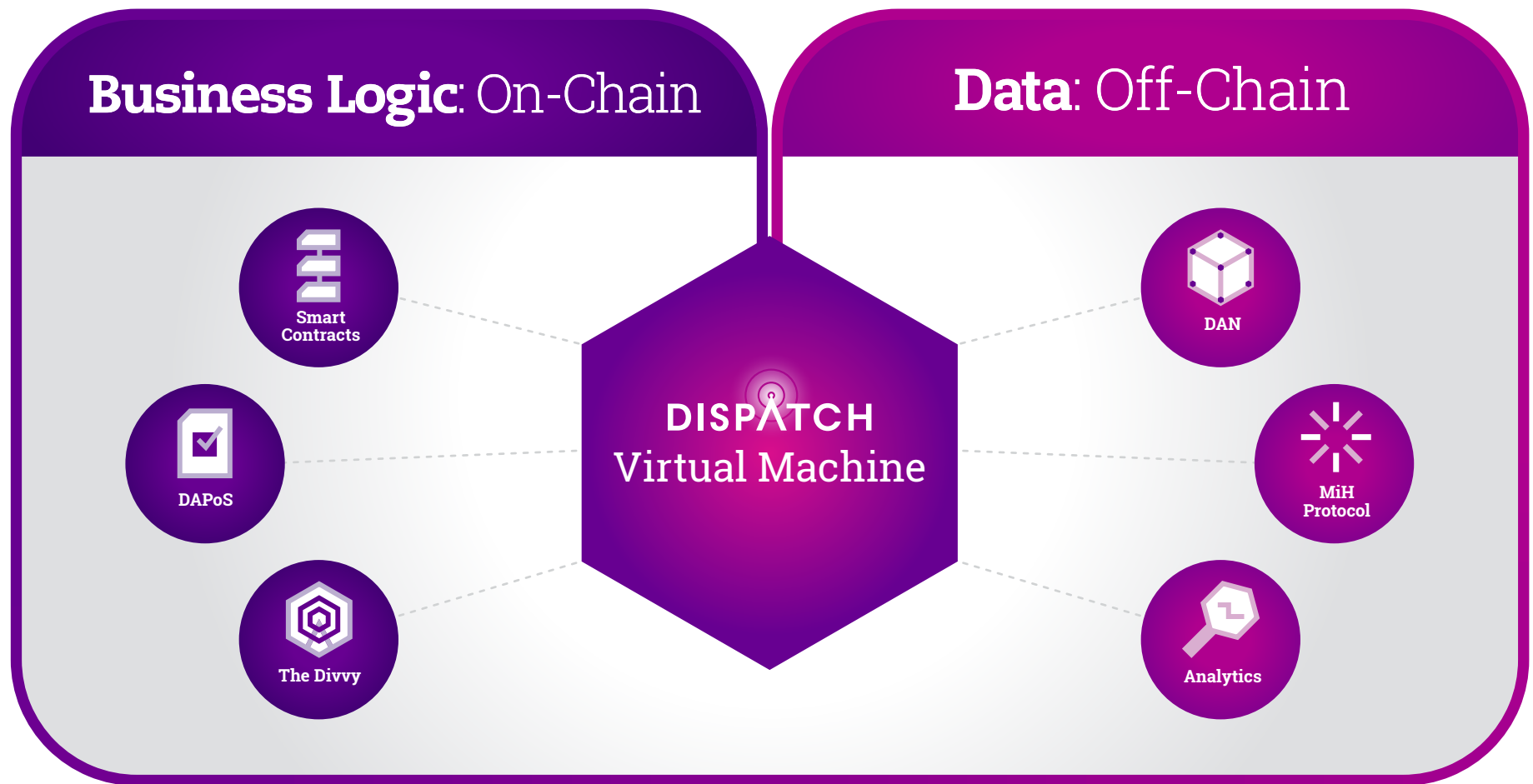
We're GDPR Compliant.
We take protection of consumer data seriously. Dispatch is built to be compliant with Europe's new GDPR regulation on day one, a first in the blockchain industry.

The Technology

The Dispatch protocol combines a new approach to blockchain transactions with innovative off-chain data storage. The result: a powerful platform that exhibits the democracy and transparency of distributed systems right along with solid performance to rival or exceed that of centralized tools that enterprises traditionally use.

All the Dispatch platform's components work together to create a system with more expansive dApp functionality than any before it. From entrepreneurs to enterprise, businesses can build and deploy robust data-centric applications like never before.

Business Logic: On-Chain

- Smart Contracts
- DAPoS
- The Divvy

DISPATCH Virtual Machine

Data: Off-Chain

- DAN
- MiH Protocol
- Analytics

Business Logic

Smart Contracts
Used to customize dApps and manage off-chain data stored in the Dispatch Artifact Network. Any contracts developers have already written for the Ethereum platform can be easily ported over to Dispatch.

DAPoS
Dispatch's innovative algorithm for validating blockchain transactions. Because it's based on collaboration among validators, rather than competition, it's fast and eco-friendly.

The Divvy
The official Dispatch token, slated to launch in late 2018. It will act as a means of transaction, a tool for community building, and a functional link to other components of the Dispatch ecosystem.

The Technology
On Chain

The Dispatch ledger gives our platform speed and flexibility unprecedented anywhere else in the blockchain space. Among the Dispatch ledger's key features:

- Maintains the state of all the accounts using the network. This common state can be updated by sending transactions.

- Uses the DAPoS algorthm to rapidly verify new transactions as they're sent to the blockchain.

- With DAPoS, each delegate is responsible for his or her own chain of transactions, and consensus is reached asynchronously via gossip-like messaging. Transactions can also includes logic in the form of art contracts.

We built the Dispatch ledger to use DAPoS for both business and moral reasons, as its power requirements make it eco-friendly.

The day-to-day tool for users to interact with the Dispatch blockchain will be the Divvy token.
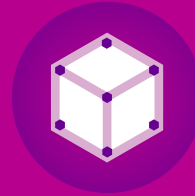
Off Chain

Another crucial feature of the Dispatch protocol that helps it handle greater amounts of data at scale is its handling of artifacts, which are off-chain data objects. The blockchain distributes information about the artifacts without sharing the artifacts themselves.

This allows the blockchain to grow linearly even as the amount of data managed on the network grows geometrically.

- Downloaders find the nearest farmer of an artifact they need.

- Matching of downloaders and uploaders is checked against individual users' Kademilia Distributed Hash Table, a record of previous transactions.

- Uploaders implement Proof-of-Replication (PoRep) security to stop hacker attacks.

Once a given transaction is verified in this way, it goes through. This all happens orders of magnitude faster on Dispatch than it does on other blockchains.

Data

DAN
The Dispatch Artifact Network allows the Dispatch blockchain to link back to off-chain data objects. Storing data off-chain in the form of objects called artifacts is critical to the long-term scalability of the Dispatch platform, as it allows the shared ledger to grow linearly while the actual data in the system can grow exponentially.

MiH Protocol
The MiH protocol provides the assurance nodes need to trust on another as they confirm new transactions. It does this efficiently, without each node on the Dispatch network having to trust and communicate with every other node.

Analytics
The interplay between the Dispatch blockchain and the DAN allows applications to access or write data rapidly for whatever purpose enterprises need to get their work done. In addition, running analytics on that trove of data will provide value insights into every aspect of an enterprise's operations.

Dispatch Data Flow

- Uploader
- Smart Contract
- Shared Ledger
- Downloader
- Farmer
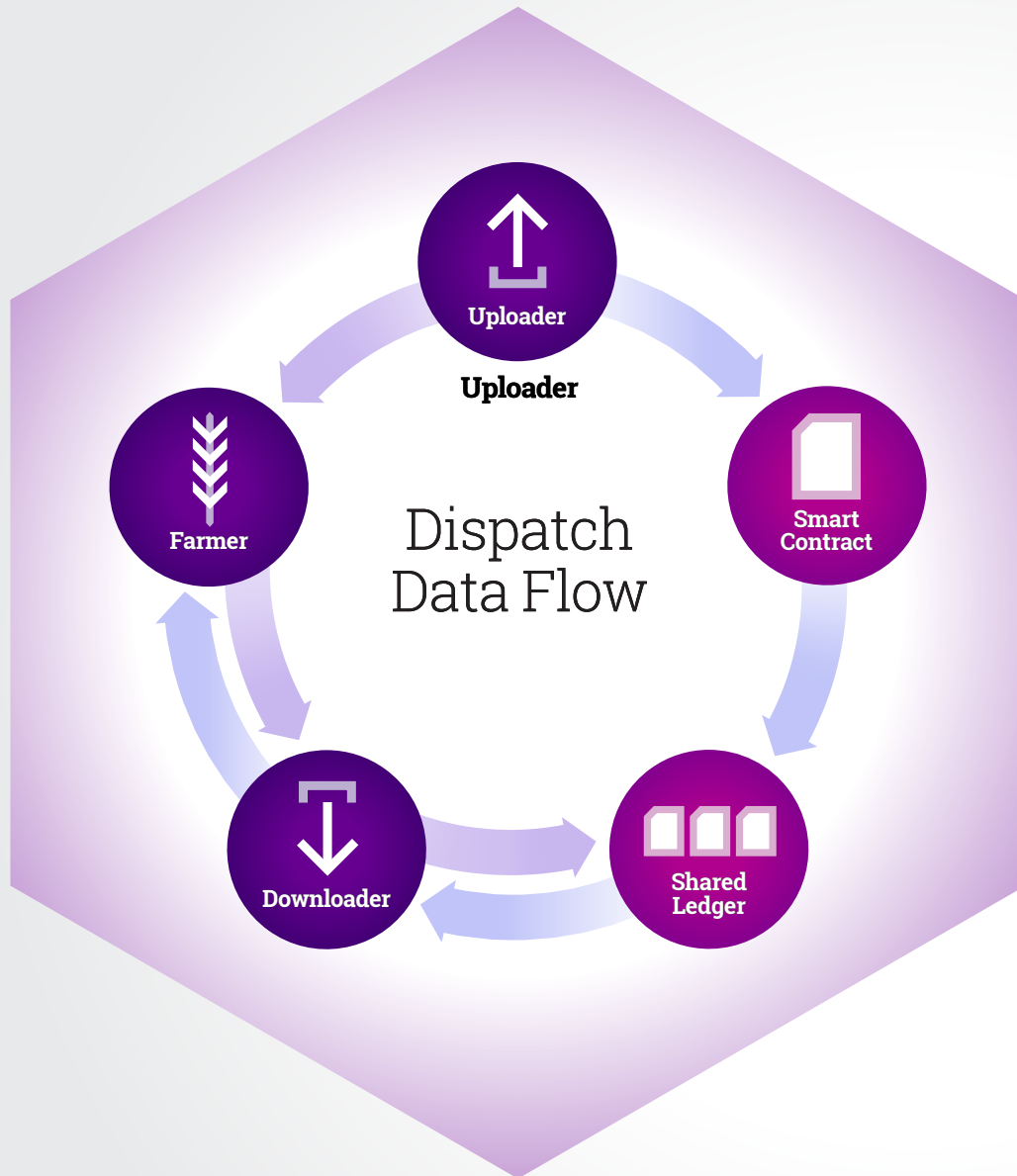
Dispatch Virtual Machine

The Dispatch blockchain supports smart contracts that allow users to write and execute stateful programs. The DVM's key features include:

- Maintains the state of all the accounts using the network. This common state can be updated by sending transactions.

- Uses the DAPoS algorthm to rapidly verify new tranasactions as they're sent to the blockchain.

- With DAPoS, each delegate is responsible for his or her own chain of transactions, and consensus is reached asynchronously via gossip-like messaging. Transactions can also includes logic in the form of art contracts.

Any smart contracts developers have previously written on that platform can easily be moved over to Dispatch. That means fewer headaches, better performance, and shorter lead time for new developers and projects to get up and running on the DVM.

Players

There are several different roles a node can play in both the consensus and the Dispatch Artifact Network (DAN).

The roles necessary for DAPoS consensus are the:

1. Stakeholders
2. Delegates
3. Bookkeepers

In the DAN, nodes can act as the:

4. Uploader
5. Downloader, or the
6. Farmer.

Most of the roles are not mutually exclusive, meaning that any node can act as most of the roles in any network interaction.

Stakeholders
In any Proof-of-Stake (PoS) system, there must be Stakeholders. DAPoS is no different. A Stakeholder is any node who holds Dispatch tokens. Stakeholders are in charge of electing the witnesses and the delegates. Stakeholders get one vote per share per candidate in each election.

Delegates
The Delegates in DAPoS consensus are the nodes in charge of validating transactions. Whereas transaction validators in most distributed ledger systems are paid per transaction via transaction fees, delegates in Dispatch are paid for time spent validating. We believe that compared to a commission job, a salary position for Delegates will lead to more positive network behavior.

Bookkeepers
Bookkeepers are responsible for holding delegates accountable for their validations. With Stakeholder support, they can eventually become Delegates themselves.

Uploaders
Uploaders seed the DAN with artifacts. Uploaders deploy artifacts via smart contract and serve them to the downloaders. If the file is popular enough that the Uploader them self can't serve all the downloaders, the Uploader may enlist the help of Farmers to distribute their content.

Downloaders
Downloaders are content users or consumers and the most common role in the DAN. Downloaders receive their artifacts from farmers and uploaders.

Farmers
The Farmers are extremely important to the scalability of the DAN. Farmers deliver artifacts across the network to downloaders. Farmers are typically compensated for their storage by the uploaders and their bandwidth by the downloaders. On the launch of the network, Dispatch Labs will be offering free farming to help seed the DAN.

Use Cases
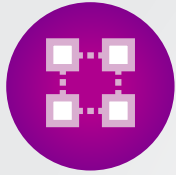
Peer-to-Peer Content Marketplace

Where iTunes typically takes about 30% of each song sold, artists selling their music through the Dispatch network could keep up to 100% of their sale. And since Dispatch doesn't discriminate based on file types, content creators can sell their art, movies, books, software, VR assets, secret documents, and more.

Electronic Medical Record (EMR) System

Medical record management is a major industry which could benefit immensely from a transition to distributed ledger technologies. Because Dispatch allows data to be securely stored off-chain, not only could medical records be stored and immutably tracked within the ledger, but assessments, scans, blood tests, and other patient data could be safely stored, tied to a patient via a unique node ID, and managed within the ledger.

Aircraft Manufacturing

A quintessentially global business with a uniquely complex and demanding supply chain comprising primary manufacturers (Boeing, Airbus), parts suppliers, shipping companies, and regulators like the Federal Aviation Administration that set high safety requirements. At present, the industry relies almost entirely on a patchwork of proprietary IT solutions, many of which may not be compatible or able to share data from stakeholder to stakeholder. Using a more open blockchain solution like Dispatch could greatly help to resolve the fragmentation and ensure that no information "goes missing" to someone who needs it, causing delays and cost overruns.

Autonomous Vehicles

One of the most ingriguing areas of innovation in tech these days, self-driving vehicles could eventually transform everything from trucking to municipal transit. Unfortunately, there are only three companies that possess truly useful mapping and navigation data – Tesla, Google, and Uber. Using the Dispatch blockchain instead could help democratize development, allowing smaller startups and entrepreneurs to increase the overall pace of innovation.

Use Cases
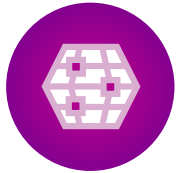
Open Market CDN (Content Delivery Network)
The Dispatch network runs on a global network of farmers hosting and distributing data on behalf of the uploaders who added them to the network, making it a de-facto CDN. The uploaders can leave their content with as many farmers as they see fit based on the size and demand of the file. And since there's not just one company to set the price of the file hosting, the farmers are actually bidding against each other to host the files for the lowest possible price.
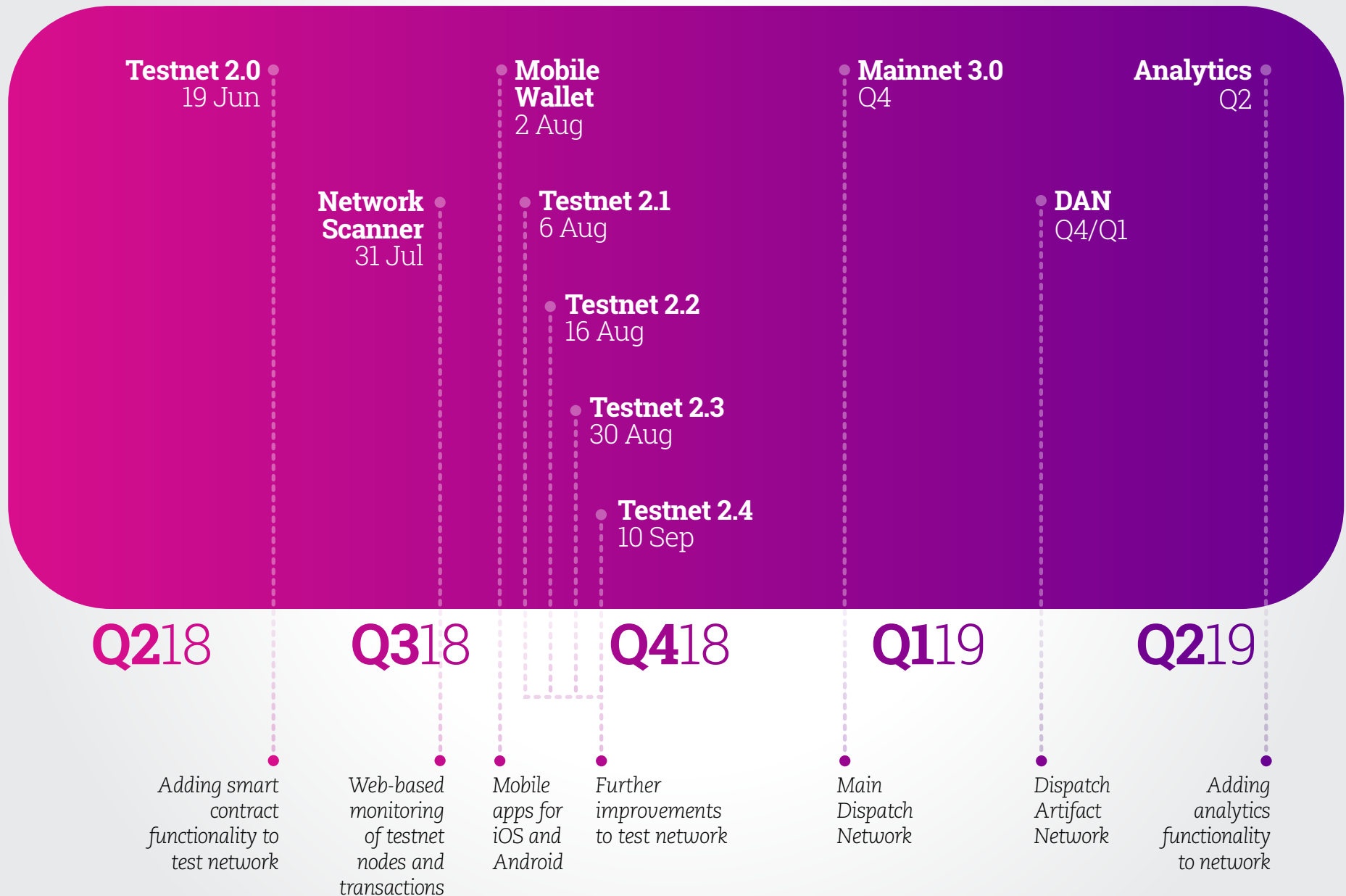
Learning Management System
Curriculum management, video or written lessons, research material, and distribution could all be handld by the Dispatch network. Tests could be given on the shared ledger and grades could be stored immutably. Class workflow can be programmatically configured, so a student could programmatically unlock access to the next lesson based on their grade in the previous chapter.

Token Sales
Developers can use Dispatch smart contracts to create dApps on top of their own tokens. If the developers of a Dispatch dApp are seeking funding for their project, it would make sense for them raise at least some of their funds on the Dispatch ledger. By accepting Dispatch in their token sales, businesses can also accept support from the community that their dApp is built on.

Product Roadmap

Testnet 2.0
19 Jun

Network Scanner
31 Jul

Mobile Wallet
2 Aug

Testnet 2.1
6 Aug

Testnet 2.2
16 Aug

Testnet 2.3
30 Aug

Testnet 2.4
10 Sep

Mainnet 3.0
Q4

DAN
Q4/Q1

Analytics
Q2

Q218

Q318

Q418

Q119

Q219

Adding smart contract functionality to test network

Web-based monitoring of testnet nodes and transactions

Mobile apps for iOS and Android

Further improvements to test network

Main Dispatch Network

Dispatch Artifact Network

Adding analytics functionality to network

The Company

Dispatch is a registered California company based out of the Mission district of San Francisco. The team is a balanced blend of entrepreneurs, academics, business development, and technologists. Dispatch is advised by some of the greatest minds in the blockchain ecosystem, and the strategic partnerships extended our credibility into both the blockchain and traditional business ecosystems. Dispatchhas multiple staff members and advisors who have scaled technology companies from foundation to 100+ person teams and managed successful exits.

Matt McGraw
Chief Executive Officer

Zane Witherspoon
Chief Technical Officer

Patrik Wijkstrom
Chief Operating Officer

Diane Blatner Kresal
Chief of Staff

Ivan Goldensohn
Chief Ecosystem Officer

Shadan Azali
VP of Investor Relations

Mark Streeter
Director of Asia Operations

Zachary Fallon
Senior Legal Advisor

Greg McGregor
VP of Engineering

Darin Kotalik
VP of Marketing

Jake Kuczeruk
Director of Partnerships

Nicolae Carabut
Senior Developer

Christopher McGregor
Senior Developer

Bob Stevens
Senior Developer

Dmitri Molchanenko
QA Engineer

Denis Molchanenko
QA Director

Our Advisors

Dispatch embraces a wealth of perspectives by tapping into the expertise of top level advisors from the financial, legal and crypto worlds.

Will O'Brien

Ran Neu-Ner

Austin Hyland

Simone Giacomelli

Tim Siwula

Jake Vartanian

Andrew Segal

Paul Lambert

Mathias Goldman

Christian Yavorsky

Jordan Burton

Benji Rabhan

Ted Moskovitz

Jonathan Dippert

Conclusion

Dispatch is expressly built to remedy the network bottlenecks, clunky consensus methods, and other obstacles that have so far kept blockchain technology from fulfilling its world-changing promise.

The result: a vastly superior platform for building powerful data-centric apps.

In particular, the Dispatch protocol tackles head-on the two largest scalability issues in existing chains — transaction speed and chain size. The innovative DAPoS algorithm helps rapidly verify transactions on the shared ledger, while the Dispatch Artifact Network allows data to be stored off-chain. Combined, these unique technologies allow dApps built on Dispatch to scale as never before possible elsewhere.

Dispatch has already attracted a mix of startups and established companies that are leveraging its protocol to transform their businesses, kickstarting the adoption of Dispatch as the first truly scalable business-ready blockchain.

We invite you to join us as well in this revolution today.