EVERY*

PROTOCOL BRIEF

THE RETAIL PROTOCOL FOR BUILDING DECENTRALIZED COMMERCE EXPERIENCES

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THANK YOU.

The EVERY* Team would like to thank our base of investors and advisors who have challenged and enabled us to approach and create a better product: Reflective Ventures, Casey Carl, Cody Cho, Rob Wells, Christian Parks, Eddie Wang, Adil Wali, Alisa Mulhair, and many others.

Certain statements in this document constitute forward-looking statements. Such forward-looking statements, including the intended actions and performance objectives of the Co-op, involve known and unknown risks, uncertainties, and other important factors that could cause the actual results of the Co-op to differ materially from any future results expressed or implied by such forward-looking statements. Accordingly, readers should not place undue reliance on forward-looking statements. No representation or warranty is made as to future performance or such forward-looking statements.

This document was last updated on July 1st, 2018.

For the most up to date information on our product development and business strategy, please refer to our website at overview.every.shop

PREFACE TO V2

Four months ago, we released the first version of the EVERY* Technical White Paper. Since then, the vision and approach to EVERY* have a been refined based on technical research, prototyping, and feedback from brands, shoppers, and industry experts. As a result, the product has become more focused, valuable, and achievable.

This preface is an update to the white paper that explains the changes to our product thinking and technical approach, gives an overview of progress-to-date, and discusses plans and next steps.

JULY 2018

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THE PRODUCT

The vision of the product described in the white paper was that of a decentralized eCommerce platform that was competitive with existing platforms such as Shopify, Magento, Demandware, and others. While it was modular and contained a suite of libraries to help with the brand onboarding process, it was a system that required significant up-front investment from a brand to get the benefits of EVERY*. The team recognized this limitation of the product and sought to distill the essence of what makes EVERY* so crucial while creating a product that is immediately valuable to both brands and shoppers.

We believe that the management, dissemination, and usage of shopper data is the single best ways to improve the retail experience for all constituents. EVERY* should give shoppers the agency to collect and share data at their will. Furthermore, brands should get access to less noisy and higher value data than they've ever had, and EVERY* should help brands how to understand best how acquired information can best help their businesses. The outcome of that belief has been to focus on EVERY* as a platform that allows brands and shoppers to frictionlessly share data and rewards while enabling third-parties to create compelling experiences leveraging that data.

Simply put, we see an app store for experiences built on ethically-sourced shopper data. The EVERY* team has identified three broad areas that it believes this type of data will be transformative: channel management, demand generation, and customer loyalty.

EVERY* MVP

To get to market, we need to prove the viability of the data exchange ecosystem by providing utility to Shoppers for the EVERY* Token and the EVERY* Wallet. Brands also need easy-to-adopt systems to let them experience the benefits of EVERY* without taking too big of a risk.

Therefore, we are launching with our marketplace, EVERY* Marketplace, that is deeply integrated with the EVERY* Wallet and Platform. There, brands can approach EVERY* as another channel without having to migrate any of their existing infrastructure. They can merely see EVERY* as another channel with better economics and vastly richer customer understanding than competitors like Amazon or Walmart.

A set of tightly curated marketplaces helps us drive shopper adoption by creating an experience that is familiar, creates shopper demand, and that introduces the rewards as compensation for data.

Goals

Between now and the end of the public sale this summer, an MVP is being built with the intent of proving the viability of the EVERY* model and value proposition. That means the following three things need to occur:

1. EVERY* tokens need to be distributed;
2. EVERY* needs to acquired shoppers;
3. EVERY* prove to brands that usage of the platform will lead to increased top-line revenue.

Initial Product Suite

Practically, this means we are jump-starting the liquidity of a two-sided market between brands and shoppers. To do this, we are launching three end-user facing products:

- **EVERY* Marketplace:** The first marketplace built with native EVERY* integration;
- **EVERY* Wallet:** The shopper's home for interacting with the CO-OP and brands;
- **Brand Portal:** A dashboard that lets brands understand basic sales metrics on EVERY* Marketplace and gives them insight into what shopper data is being acquired.

PRODUCT COMPONENTS

The sections below give a brief overview of the different high-level components that make up the system.

EVERY* Protocol

The EVERY* Protocol, a blockchain-based protocol that defines the types of data that can be shared, the escrow processes that protect both the buyer and seller, the attestation format on the blockchain, and the overall rewards system.

EVERY* Token

EVERY* will eventually be a multi-currency system, but the first currency is the EVERY* Token. This currency will power everything from data exchange to product purchases across EVERY*.

EVERY* Wallet

The Shopper entry point, the EVERY* Wallet, allows Shoppers to record and securely encrypt data generated by their action across the Internet, earn rewards by interacting with Brands and securely purchase products.

EVERY* Platform

The EVERY* Platform ties everything together. It is a series of REST APIs, developer SDKs, and dashboards that make it easy to work with the blockchain, distributed storage, and data analysis. In many ways, the EVERY* Platform can be viewed as the Brand's analog of the EVERY* Wallet because it lets the Brand interact with EVERY* in simple and understandable ways.

THE PRODUCT

The most significant shifts in our technical approach from the white paper's descriptions are: 1) moving away from the process of gradual decentralization and 2) the scope of EVERY's decentralized platform. We are approaching EVERY* as an immediately decentralized system that must fit comfortably into Shoppers lives and coexist with the technical infrastructure used by Brands. Note that the system must natively support interaction with existing off-chain systems, such as eCommerce platforms, messaging systems, and ERPs.

For the MVP, we are following a number of tried and true adages:

Constrain Product Scope

Rather than solving for the entire retail ecosystem on day one, the initial version protocol handles data that is shared between a shopper and a brand one time. This allows us to avoid throughput and data storage issues, as performance-sensitive actions like inventory and order management are handled off-chain.

Avoid Premature Optimization

There absolutely may be a time when the Ethereum blockchain will not be the right choice for EVERY*. However, by constraining scope to focus on making a great wallet and data sharing that isn't hurt by a bit of latency, we can push those problems to the future. As we start to see what works and what doesn't, we'll have the opportunity to invest in technologies like Plasma or other blockchain technology.

Looking Forward

Going forward, the system will advance by expanding functionality and addressing technical limitations. This means that the system will recognize more types to data, begin provide analysis, and manage more complex data ingesting and rewards schemes. And as we being to scale, we'll evaluate migrating away from Ethereum or using technologies such as Plasma if throughput can't keep up with demand. The platform will also start integrating with distributed storage technologies, such as IPFS, to manage growing data storage requirements.

V2 UPDATE

PROGRESS

Completed Work

Over the past three months, our small team has made tremendous progress in bringing EVERY* to general availability. Our focus has been to test concepts and user interaction paradigms to facilitate Brand and Shopper adoption once the public token sale has occurred and the blockchain-based MVP is live.

EVERY* Wallet Alpha

The alpha release of the EVERY* Wallet, which launched back in March, is an off-chain version of the Wallet that allows Shoppers to join the CO-OP and earn rewards in exchange for sharing information about themselves. In addition to being a proving ground for testing membership and data sharing user experiences, the alpha wallet is embedded into the EVERY* Marketplace, allowing Shoppers to spend their rewards for discounts on purchases.

EVERY* Marketplace Alpha

EVERY* Marketplace, a marketplace developed by EVERY*, launched in March with two pilot brands and EVERY* Wallet integration. Its native integration with the Wallet gave pilot brands a nearly frictionless way to sell products into the EVERY* ecosystem while allowing us to refine the integration between storefronts and the wallet.

Token Sale

Back in April, we announced an update to the model for our public token release from a Dutch auction to a simpler, hard capped sale. Since then we have written an open sourced the smart contracts that power the sale. A companion service, codenamed Coinflip, has also been completed and open sourced. It allows us to accept Bitcoin, maintain the token price relative to USD, and update a whitelist that only allows CO-OP members to participate in the release.

Both the smart contracts and Coinflip were deployed to the Rinkeby testnet in April and have received bug fixes and enhancements as issues arrived. We are in the process of securing a security audit for the smart contracts.

WORK IN PROGRESS

Now that much of the background work needed to support the token sale, CO-OP membership, and creation of EVERY* Marketplace has been completed, the product and technology teams are focusing one the MVP. The areas receiving the most attention are the EVERY* Wallet and EVERY* Protocol.

EVERY* Wallet

We are in progress transforming the alpha version of the wallet from an off-chain membership experience to a true cryptocurrency and data wallet that will do everything from managing Ethereum keys to collecting and encrypting data to signing data exchange transactions.

The first version of the wallet will be a web wallet with keys and data being stored in a browser's local storage. The wallet is being written to allow relatively easy Electron-based desktop applications and React Native-based mobile applications to be launched at some point in the future.

This first version of the wallet will feature an embeddable checkout flow on EVERY* Marketplace.

EVERY* Protocol

The work around the protocol is the definition of the data taxonomies supported by EVERY*, and the creation of the smart contracts that will define how data is shared and rewards are earned.

INTRODUCTION

IN THIS SECTION

BACKGROUND

THE PROBLEM

THE SOLUTION

EVERY* USERS

INTRODUCTION

BACKGROUND

Like most industries, Retail is continuously oscillating between phases of centralization and decentralization. The rise of digital commerce in the late 1990s and early 2000s brought a wave of new eCommerce experience that proliferated across the Internet. Because eCommerce lacked the high initial capital expenditures that are required by traditional brick and mortar stores, commerce flourished. Individual sellers were able to build highly customized digital storefronts and develop relationships between their brand and to which they sold.

However, as the years progressed, digital commerce became harder as expectations for website sophistication, logistics, and customer service continuously rose. To make matters worse, the primary customer acquisition channel, digital ads, only continued to get more expensive. As a result more and more brands have turned to large centralizing agents and third-party marketplaces that take care of everything from logistics to the shoppers experience. And while these centralized agents have provided services, they store information and monopolize the relationship with the Shopper.

THE PROBLEM

The current retail landscape operates in centralized environments where each participant needs to integrate and coordinate with the other participant's workflow in order to get their products into the hands of shoppers. The parties involved are often left to interact with each other's systems, either manually or by independently-managed and centralized databases.

These centralized parties benefit greatly from the inefficiencies between everyone else involved in the retail landscape. Under the veil of collaboration, these centralized middlemen develop systems to onboard the other parties onto their protocols. In reality, these systems block transparency, accountability, and innovation thereby driving prices up and taking more money from Brands and Shoppers.

Middlemen who integrate across the retail landscape use the system often and ultimately consume the most value between brands and shoppers. That allows them to control and centralize key data sets to reap the most benefit from and centrally manage the information exchanges according to their best interest.

Currently, there is no way to integrate data in a decentralized manner to prevent these data monopolies and give value to both the retailer, the brand, and the consumer.

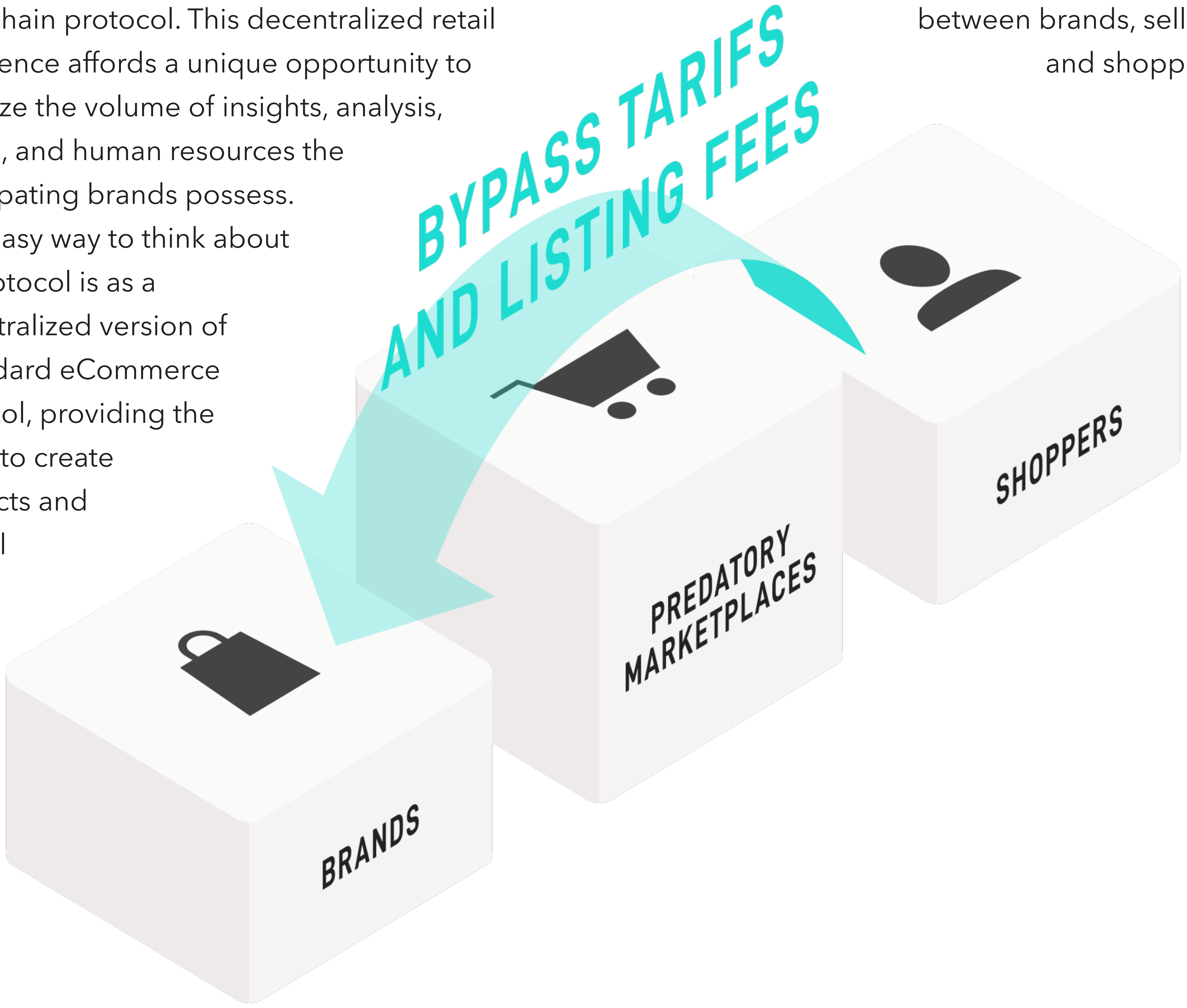
THE SOLUTION

The lack of shared data in the retail markets can be fixed by decentralizing and tracking information within the retail supply chain to embrace collaboration within industries. The EVERY* Protocol works to share data in the retail supply chain to allow everyone to have the unique opportunity to organize, analyze, and act on the wealth of information available.

To remedy the lack of shared data, we will decentralize and reorganize the retail supply chain with a collaborative and democratic Blockchain protocol. This decentralized retail experience affords a unique opportunity to organize the volume of insights, analysis, capital, and human resources the participating brands possess.

An easy way to think about the Protocol is as a decentralized version of a standard eCommerce protocol, providing the ability to create products and control how they are merchandised, manage inventory and warehousing, and provide an interface for carts, orders, and returns. All the while, analytics about the whole process, including interactions with shoppers are being recorded and analyzed.

It is worth noting that the commerce supply chain and manufacturing lifecycles go much deeper than what is described in the EVERY* Protocol. This is intentional; we are focusing on the relationships between brands, sellers, and shoppers.



EVERY* USERS

One of the best ways to describe the EVERY* Protocol is to first talk about the users and some of the ways that we expect them to be able to interact with the system. The Protocol focuses on the workflows and relationships between brands, sellers, and shoppers, and here is a brief description of these constituents:

- Shoppers are general users that interact with sellers and purchase products.
- Sellers allow shoppers to directly purchase products from a digital or physical storefront. Sellers may sell their own products, products produced by other companies, or a mixture of both.
- Brands are entities responsible for the creation of products. Brands may sell directly to shoppers, in which case they are sellers. Otherwise, brands will distribute their products to sellers, who will make the final sale to shoppers.

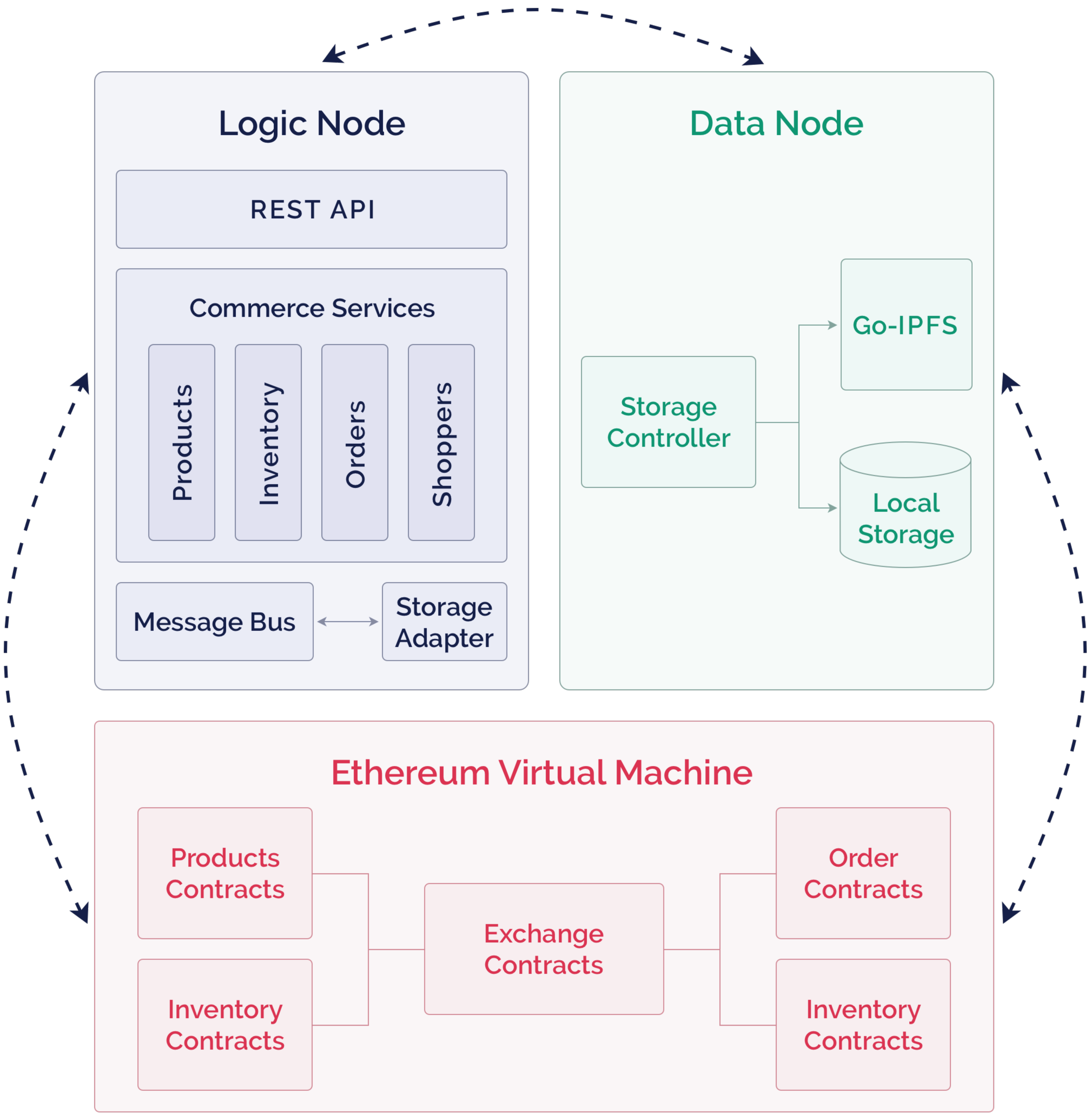
The following workflows illustrate the core interactions in the system. Brand-only workflows are one generally related to the internal management of products, orders, or inventory by members of a brand's staff. Brand-Seller workflows reflect the collaboration between a brand and a seller to sell products. Shopper-Seller interactions occur when a shopper purchases products, shares data with a seller, or returns a products.

EVERY* PROTOCOL

IN THIS SECTION

EVERY* PROTOCOL

OVERVIEW



EVERY* Protocol is poised to be successful in part because it will launch in 2018 on top of proven software running in production for real brands and shoppers. However, the technology limitations discussed above are real, and we will be taking thoughtful and deliberate steps that balance the experience people expect from modern eCommerce with the fully decentralized protocol that we envision.

As the figure shows, the EVERY* Protocol is broken into four high-level tiers: the Smart Contract Tier, the Logic Tier, the Data Tier, and the Developer Tier. These components define the Protocol's structure and surface area, as well as approaches to on and off-chain transactions, data storage, and developer experience.

As the EVERY* Protocol evolves, we expect the size and scope of each of these tiers to change. For example, commerce business logic will migrate from the Logic Tier to the Smart Contract Tier as we gain increased scalability with the use of generalized state channels and an alternative consensus algorithm.

EVERY* PROTOCOL

PROTOCOL TIERS

SMART CONTRACT TIER

The Smart Contracts Tier refers to the logic and storage built directly into Ethereum. As we note in other parts of the paper, our goal is to keep as much data processing off-chain as possible, while leveraging the blockchain for what it does best: guaranteeing trustless interaction and data accuracy across the network. All of the components of the Smart Contracts Tier is built to run on the Ethereum Virtual Machine (EVM) and are written in Solidity.

LOGIC TIER

The Logic Tier powers the set of business logic and convenience services that enable real-time and intuitive usage of the EVERY* Protocol's blockchain features. The tier is comprised of four basic commerce services: Products, Inventory, Cart, and Shoppers that perform actions that are too costly or performance intensive to run directly on the blockchain. A RESTful API ties all of these services together under a comprehensive and unified interface.

As the EVERY* Protocol completes its evolution the logic tier will be fully stateless and holding no local data of its own. This will enable to be run by any member of the Co-op, while still guaranteeing data accuracy and validity through the blockchain.

The following two examples demonstrate the flow for using the API exposed in the Logic Tier:

Data Transaction

Scenario: Brand A integrates their Shopify Account and allows the protocol to ingest product information into the protocol. Developer Z, who has a price comparison app, does a search for top 50 products with only search parameter being text match "Red Shoe". The price for this type of transaction is 5 credits (actual pricing tbd). The result returns 50 results, 10 of which are products belonging to Brand A. The protocol adds the EVERY* token credit to Brand A's master contract wallet to compensate them for providing data into the network that grew the network value.

Developers will be able to request data using our core set of RESTful JSON APIs. When a Transaction Proposal is sent via the EVERY* API, it is compared to a Master Contract that was created the first time the developer interacted with a blockchain protocol. MCs outline the terms by which Z agrees for any future transactional contracts to be created and executed on his behalf. This creates a more seamless developer experience, and Z does not have to constantly call the Core API.

If the Master Contract agrees, the Transaction Contract is then created and posted on the public ledger. Any brand legacy system with the EVERY* Core installed with an Ethereum Adapter will be able to execute the contract, release the data and post their records on the ledger. Tokens may travel between as many transaction contracts as are approved by the Master Contract over time.

App Transaction

Let's imagine a shopper's workflow now. To initiate an app transaction, Alice opens a EVERY* wallet. The wallet lives inside the EVERY* protocol and securely stores all of the personal shopper data she generates in a local enclave on her phone. Alice is searching for a product on a brand ecommerce app and interacts with core services to build her cart off-chain.

The shopper completes checkout and a transaction contract – complete with order details: a contract address, gas, EVERY* amount, minimum contribution, and arbitration rules – is created and executed on the server; the protocol reserves inventory. Once the wallet is informed of a payment address, it generates an ERC20 transaction. Ethereum polls the transaction, and the adapter creates a payment successful event when payment is detected.

DATA TIER

The Data Tier is responsible for providing a performant and scalable off-chain data storage solution. This section will contain details about the distribution of data, as well the approach to data governance.

Data Distribution

All raw commerce data, such as product information, orders, and inventory details, will initially be stored in MongoDB databases whose contents will be replicated across a quorum of trusted EVERY* Data Nodes. The data format will use the IPFS filing system for distributed storage and provide matching, easily identifiable namespaces (attribute keys) for each data file, while its content will be encrypted as a SHA-1 hash with a checksum on the blockchain for security.

At the MVP stage, also known as EVERY* Protocol V1, primary storage will live in a PostgreSQL database. We will be transferring our off-chain storage onto RChain's data tier as we decentralize this component down the road.

Data Governance

Shoppers and brands have access to the EVERY* decentralized data marketplace experience primarily via calls they make to our Core APIs. Architecturally, the Core can be viewed as an open source e-commerce platform that derives all of its rules and permissions from the blockchain, while every action inside of platform generates transactions that are pushed back to the blockchain.

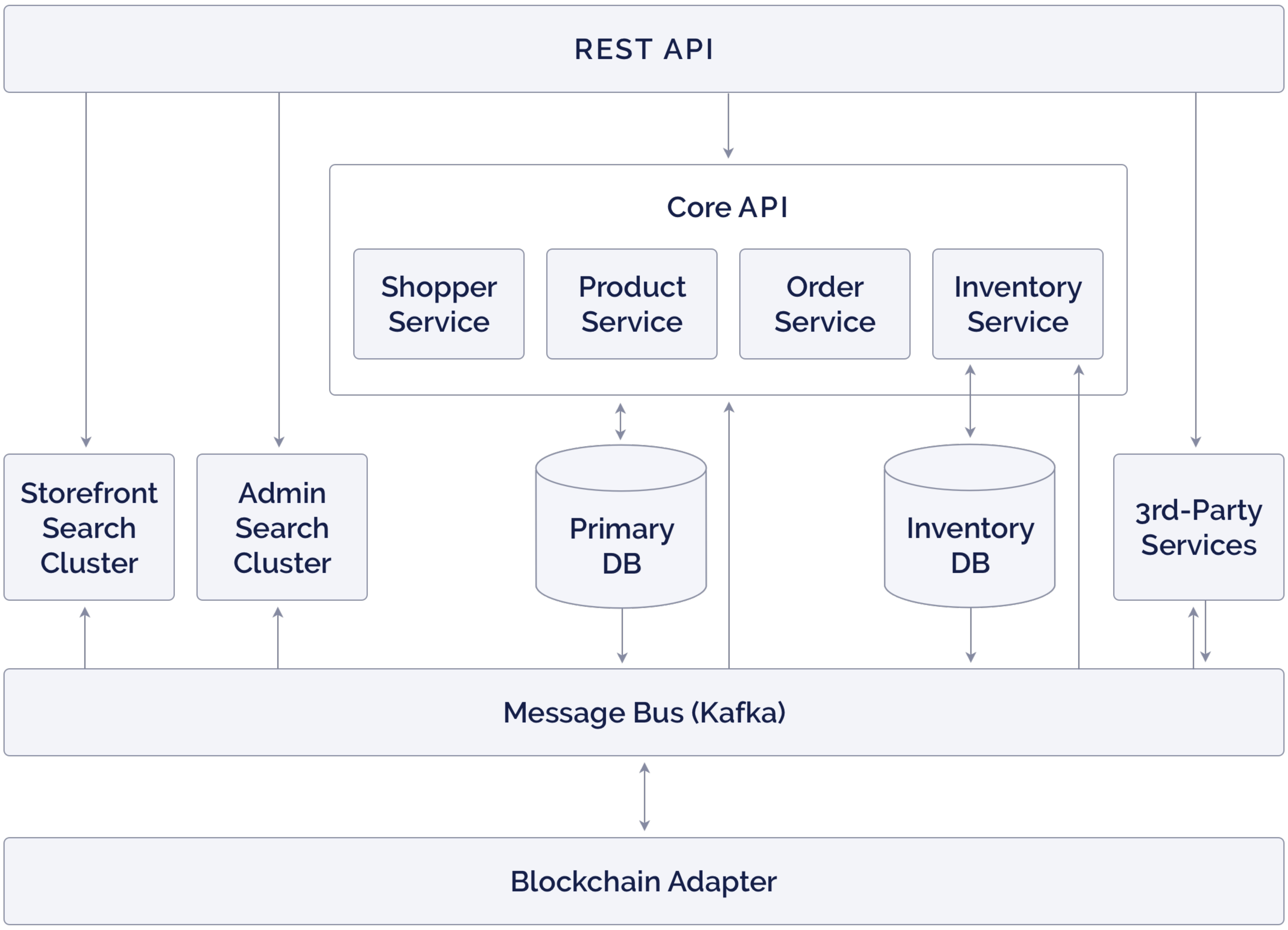
Giving access to data will require creating a Transaction Proposal that includes the reward amount a developer wants to be paid for driving the sale to the brand, and any other stipulations of the agreement. Transactions are paid in EVERY* tokens; the token type should not simply be treated as a currency or gas that executes certain functions in a smart contract, but one that permissions data and app transactions between brands and developers and possesses both the utility and work characteristics that will allow participating nodes to enforce smart contracts that rely on our retail protocol. A token basically maps a block identifier on a public ledger to a server, but also executes the terms of a specific agreement between Nodes A and B and stopping a Transaction Contract if it does not agree with the Master Contract.

SDK

The EVERY* SDK makes it easy for developers to integrate the EVERY* Protocol on their own systems, as well as to build apps that can be included to promote growth of the Protocol. The app infrastructure can be a part of the initial architecture of the SDK and dashboard that EVERY* provides. The SDK is responsible for wrapping the API, querying the blockchain, and managing encrypted data from IPFS.

EVERY* PROTOCOL

PROTOCOL MVP



The initial release of EVERY* Protocol will launch in early 2018 and will be largely based on our legacy eCommerce infrastructure.

This system is an API-first, service-oriented platform that technically emphasized flexibility, speed, and developer productivity.

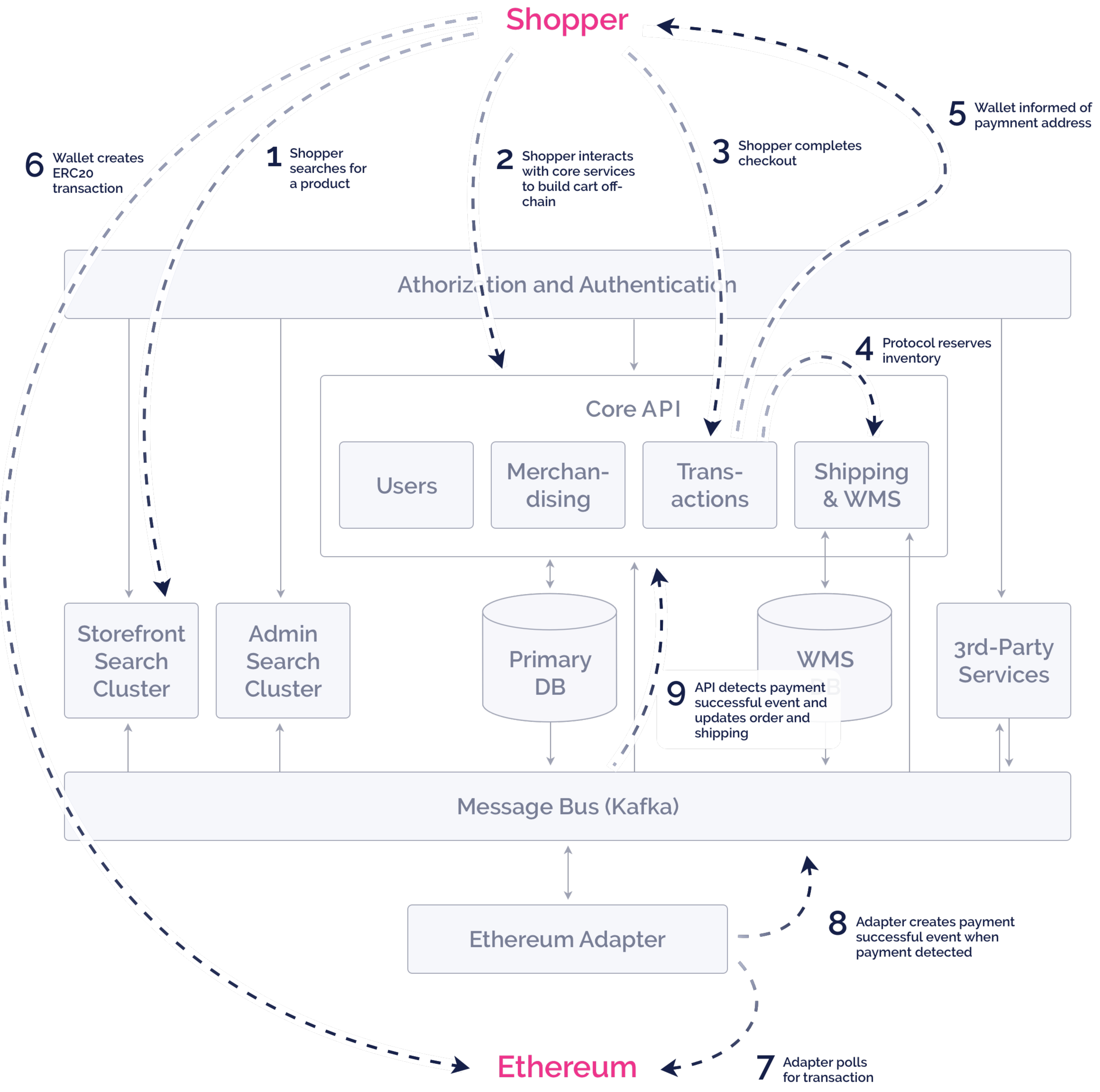
This architecture allows for a large amount of data to be stored, while caching and 3rd-party services can efficiently use the system in real-time. Uses of multiple data stores allows different services to meet their own unique scale requirements. Finally, a flexible permissioning model gives users very fine-grained control over how members of their organization can access and manipulate data.

The system is build on a series of stateless application services, written in Scala, GoLang, and C++. These horizontally scalable services connect to data storage (PostgreSQL) that handles all main relational data and a message bus (Apache Kafka) that's used to power connected services, integrations, and a caching/searching layer.

USE CASE: PURCHASING AN PRODUCT

This diagram walks through the steps that are taken to purchase a product on the MVP.

As you can see, most of the interactions occur off-chain. And as you'll see in V2, the progress of this system will be to continuously move this logic and off-chain storage to the blockchain. Critically, the next release moves from centralized to decentralized data storage.

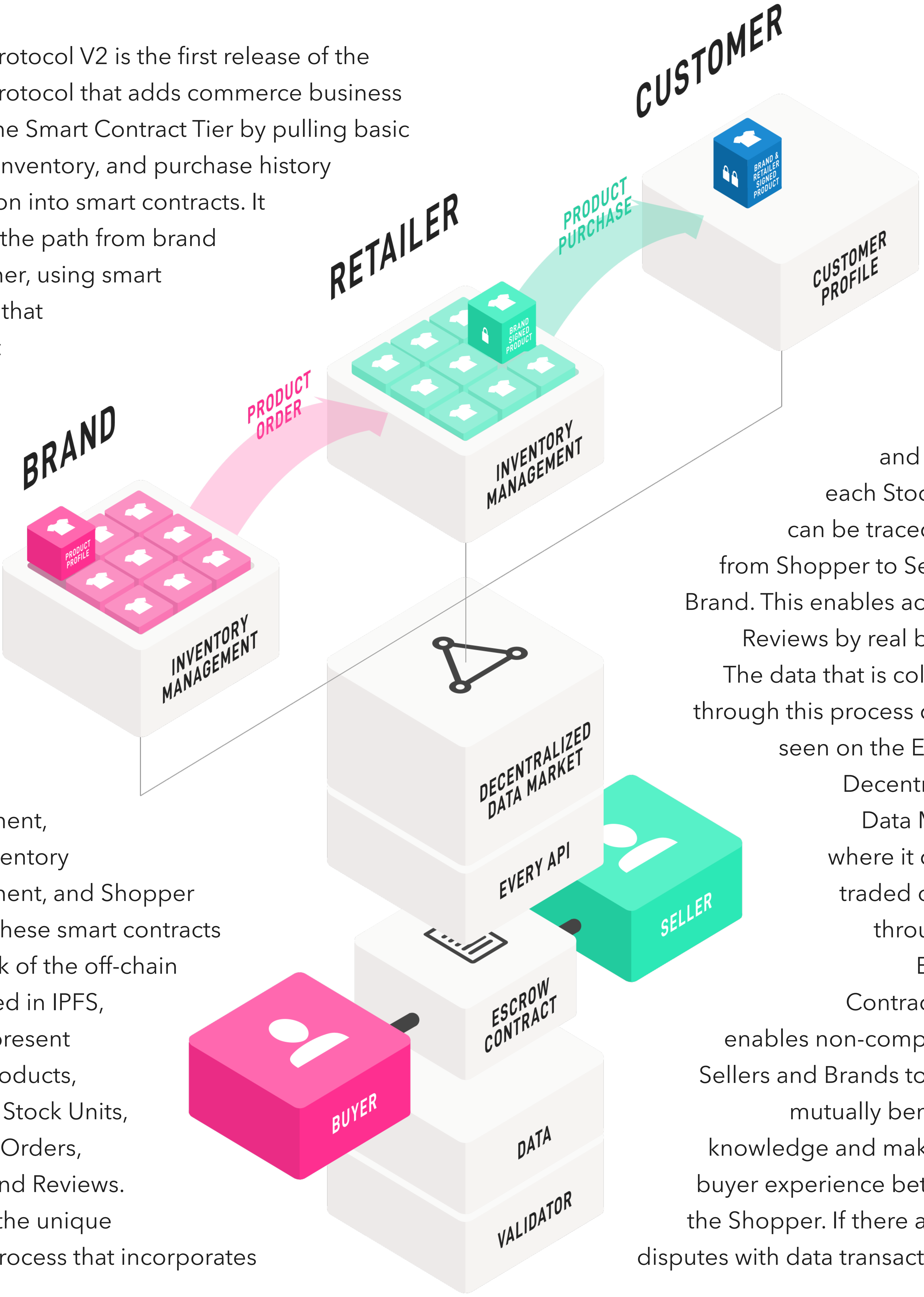

Shopper
1 Shopper searches for a product
2 Shopper interacts with core services to build cart off-chain
3 Shopper completes checkout
4 Protocol reserves inventory
5 Wallet informed of paymnent address
6 Wallet creates ERC20 transaction
7 Adapter polls for transaction
8 Adapter creates payment successful event when payment detected
9 API detects payment successful event and updates order and shipping
Athorization and Authentication
Core API
Users
Merchan-dising
Trans-actions
Shipping & WMS
Storefront Search Cluster
Admin Search Cluster
Primary DB
WMS DB
3rd-Party Services
Message Bus (Kafka)
Ethereum Adapter
Ethereum

EVERY* PROTOCOL

PROTOCOL V2

PARTIALLY DECENTRALIZED

EVERY* Protocol V2 is the first release of the EVERY* Protocol that adds commerce business logic to the Smart Contract Tier by pulling basic product, inventory, and purchase history information into smart contracts. It traverses the path from brand to customer, using smart contracts that represent Seller Inventory Management, Brand Inventory Management, and Shopper Profiles. These smart contracts keep track of the off-chain data stored in IPFS, which represent Master Products, Products, Stock Units, Purchase Orders, Orders, and Reviews. Through the unique signing process that incorporates both Brand and Seller, each Stock Unit can be traced back from Shopper to Seller to Brand. This enables accurate Reviews by real buyers. The data that is collected through this process can be seen on the EVERY* Decentralized Data Market where it can be traded or sold through an Escrow Contract. This enables non-competitive Sellers and Brands to attain mutually beneficial knowledge and makes the buyer experience better for the Shopper. If there are any disputes with data transactions,



the buyer can use the Escrow Contract to request a refund, and if the refund is not given, a group of Validators will be connected to settle the grievance (taking a fee and potentially a “fine” from the party at fault).

The above figure shows the types of interactions that will be possible on the EVERY* Protocol V2 between Shoppers, Sellers, and Brands.

SMART CONTRACTS

One of the big focuses in this release is making the system partially decentralized by putting more base product and order data directly into the blockchain through the use of smart contracts. This list of contracts here is in no way intended to convey the full set of smart contracts included in this release, but rather give light to the types of contracts expected to be part of this release.

Product

This refers to the product data that is created by specific brands. Each brand can control the information regarding the product but there is a connected review system that allows purchasers of the product to review it. The product data profile contains a few components:

- **SKU** this acts as a unique identifier for the product profile. It can be the original product SKU or it can be a generated address.
- **Brand Address** which connects this specific brand to the product data profile.
- **Product Information** this is simply the Product Data Profile’s SKU that is signed by the Brand using its private key.
- **Brand Verification** this is simply the Product Data Profile’s SKU that is signed by the Brand using its private key.
- **Product Reviews** this is the set of reviews given by verified purchasers of the product. This attribute is actually a pointer to an IPFS node that stores these reviews.
- **Product Listings** this is the IFPS addresses and the SKUs of the set of Stock Units that have been created by the brand to be a part of this Product. This controls the brand identity and its control over the products.

Stock Unit

The stock unit holds the information for an individual unit of a product. It is attached to a specific Product, and can be owned by a Brand, a seller, or a Shopper. This is what is transferred in the orders and purchases. The Stock Unit contains a few components:

- **SKU** this acts as a unique identifier among the products themselves
- **Owner Address**
- The **IPFS address** to the associated Product
- **Brand Address**
- **Brand Verification** is simply the Product’s SKU that is signed by the Brand using its private key

Order

The order is an interaction between a Seller and a Shopper. It records a purchase of one or more products by the Shopper from the Seller. The order contains the following components:

- **Order Unique ID:** to distinguish different orders;
- **Order Multi-Signature Verification System:** this system allows for the order to be submitted by either the Seller or the Shoppers, and then have the order verified by either party;

- Seller Address
- Shopper Address
- **Order Information:** this can include things like payment, the products, the quantity, and the location of the purchase

Inventory Management

Inventory Management is an on-chain smart contract that controls the flow of the orders, the product purchases, and the has a reference to all of the Seller's data. It is important to remember that a Brand may also be a Seller. This is a dynamic set of data that can be used by Sellers for order management. Each Seller controls the entirety of the inventory data, which includes the adding of new products, ordering, and tracking purchases. The inventory management data profile contains a few components:

- **Seller Address** which connects this specific seller to the inventory management data profile
- **Seller Information** describes relevant information about the seller including location, name, etc.
- **Product Inventory** is a general structure that keeps track of the inventory and product levels
- **Inventory Transactions** is a history of the actions that modify inventory, including the manufacture of new products, purchases from brands, and orders from shoppers

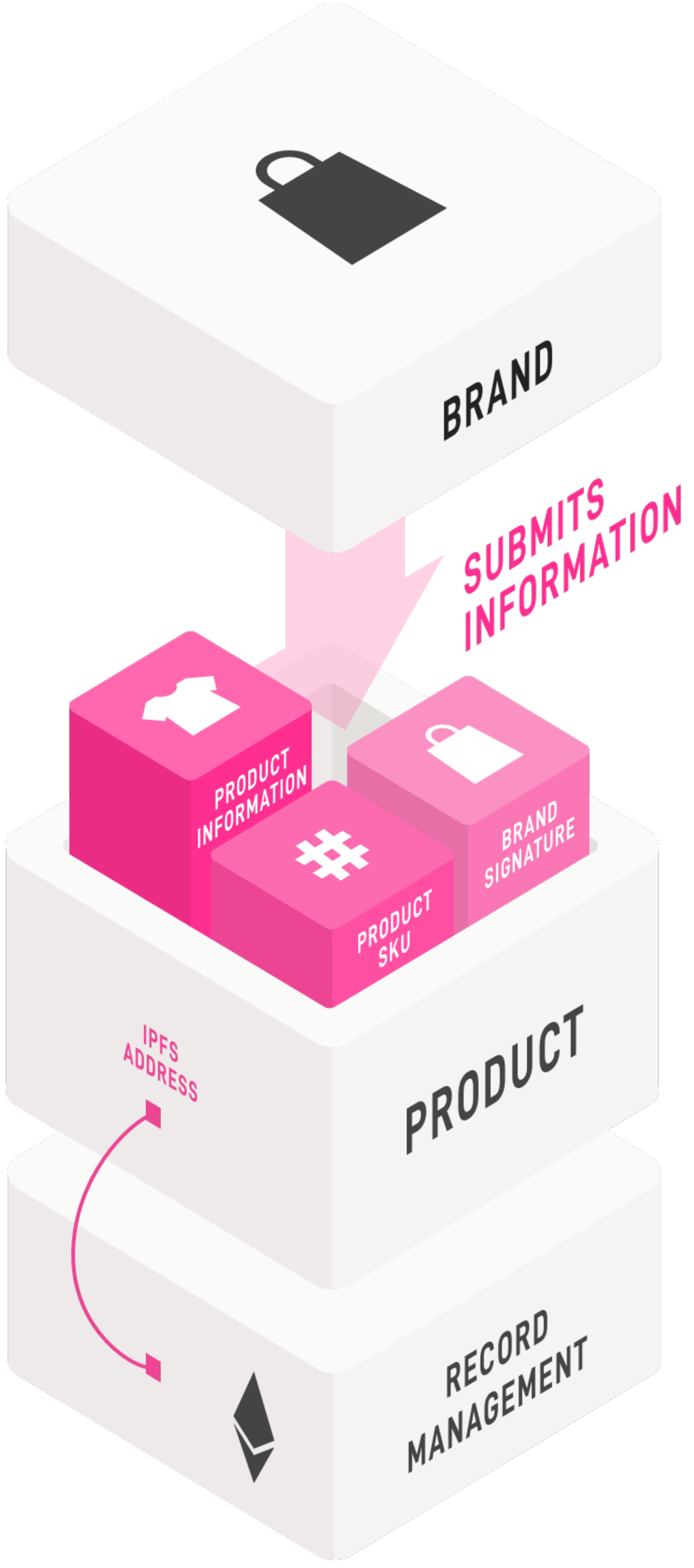
Purchase Order

The purchase order is an interaction between the Brand and the Seller. The Purchase Order keeps track of the orders made by a Seller to a Brand for products that can be sold by the Seller. The purchase order contains a few components:

- **Purchase Order Unique ID:** to distinguish between different purchase orders;
- **Purchase Multi-Signature Verification System:** this system allows for the purchase order to be submitted be either the Seller or the Brand, and then have the PO verified by the other party using digital signatures;
- **Seller Address**
- **Brand Address**
- **Order Information:** this can include things like the payment, the products, the quantity, and the expected delivery date

EXAMPLE WORKFLOWS

The focus of the EVERY* Protocol V2 is to expand the Smart Contract Tier to support basic product, inventory, and order management structures. This section will help give some context to that work by describing a few of the workflows that are decentralized in this release.



Creating a Master Product

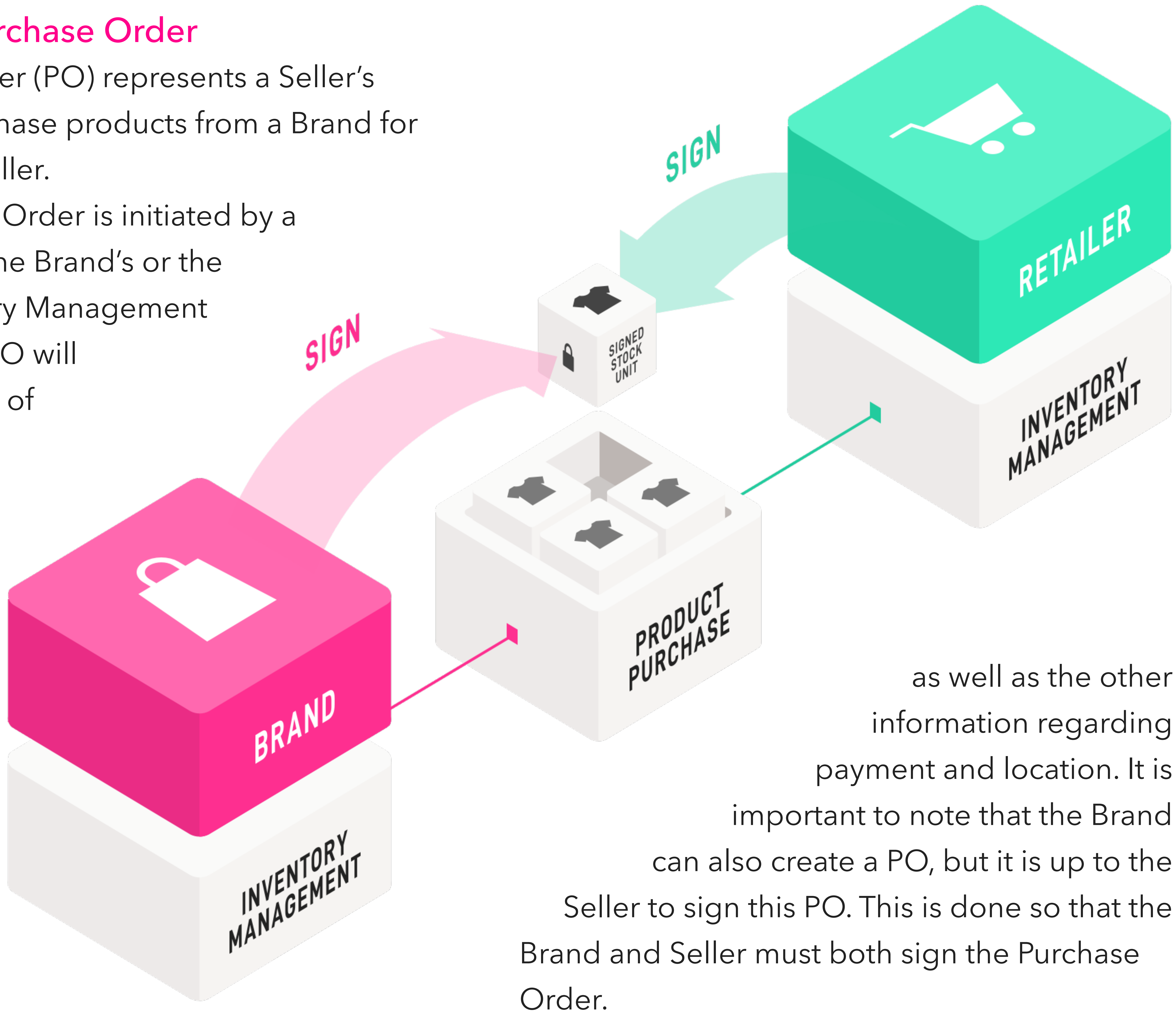
A Master Product is the official record that identifies a product and its required attributes, merchandizing content, and variants. A Brand can create a Master Product through the EVERY* REST API, which is then stored off-chain in IPFS, and is then connected to the Brand's inventory management system.

Master Products can either be sold directly to Shoppers or through another Seller, such as a retailer.

Creating a Purchase Order

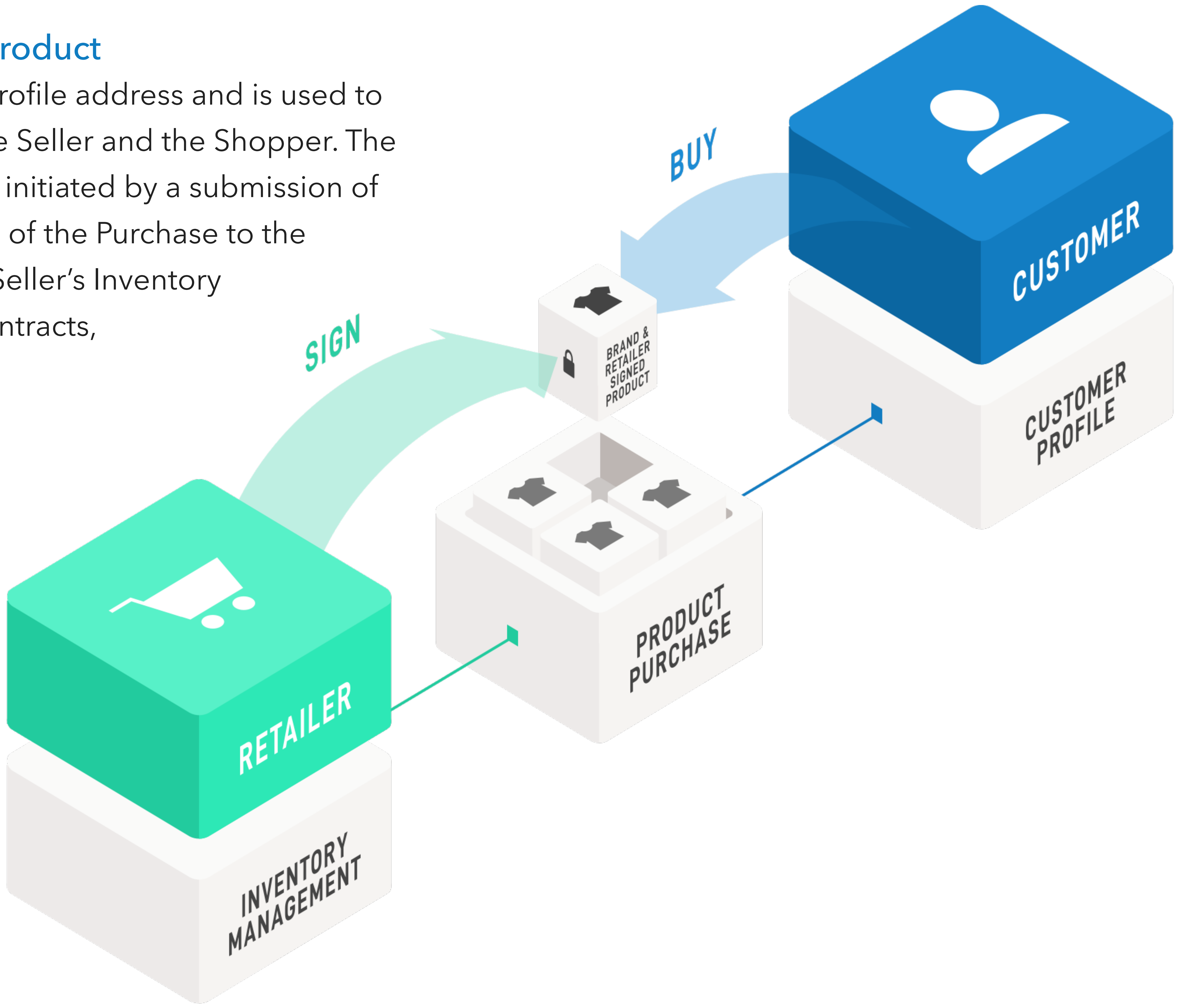
A Purchase Order (PO) represents a Seller's request to purchase products from a Brand for resale by the Seller.

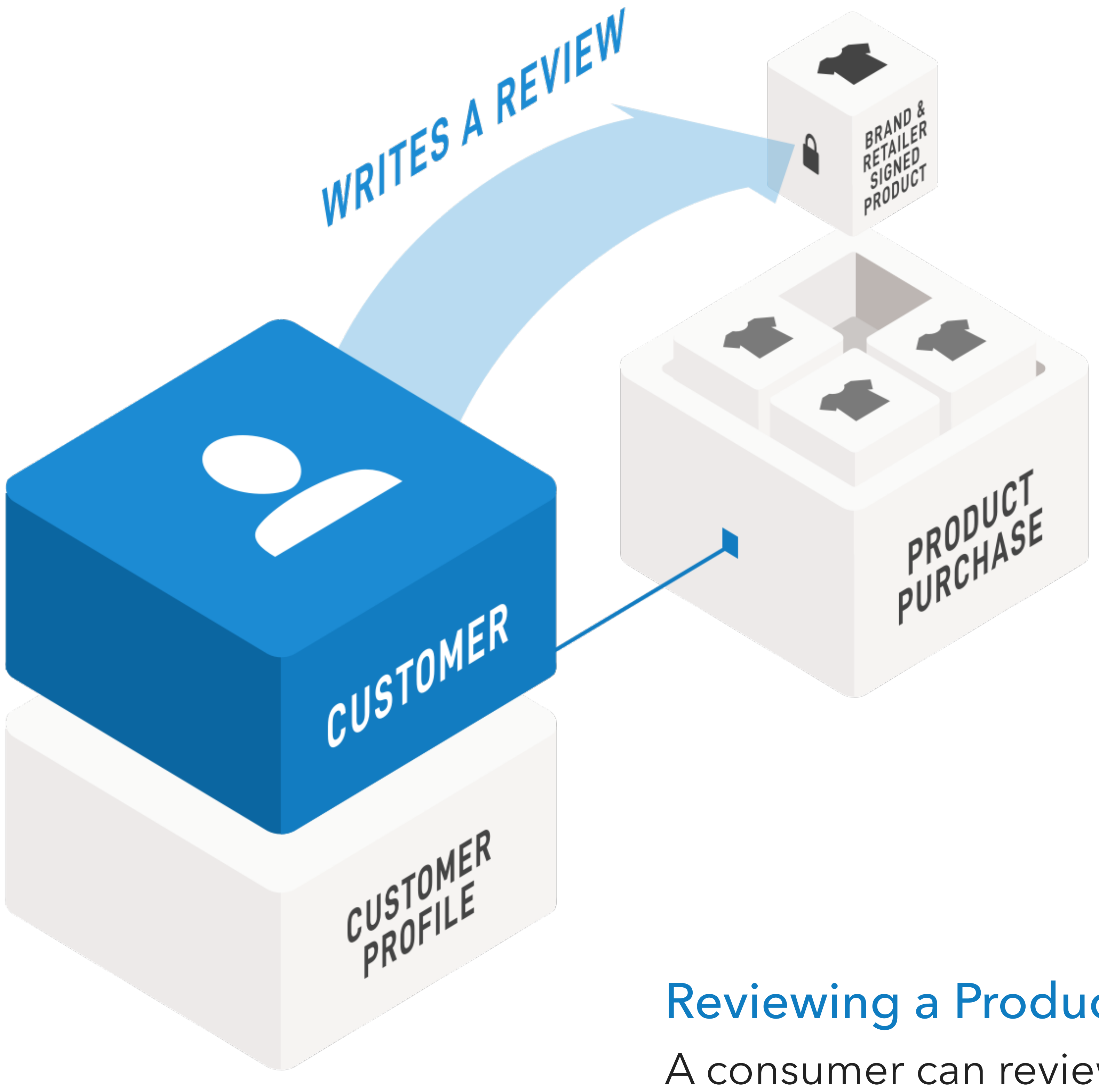
The Purchase Order is initiated by a submission to the Brand's or the Seller's Inventory Management contracts. The PO will include a listing of products as well as the other information regarding payment and location. It is important to note that the Brand can also create a PO, but it is up to the Seller to sign this PO. This is done so that the Brand and Seller must both sign the Purchase Order.



Purchasing a Product

The Shopper's profile address and is used to tie the sale to the Seller and the Shopper. The Purchase itself is initiated by a submission of the IPFS address of the Purchase to the Shopper or the Seller's Inventory Management contracts, respectively.





Reviewing a Product

A consumer can review a product through any product stock unit they own, they can validate that they have purchased this product's stock unit by showing the purchase of the stock unit along with the SKU of the product.

EVERY* WALLET

IN THIS SECTION

SHOPPER WALLET

BUSINESS WALLET

EVERY* WALLET

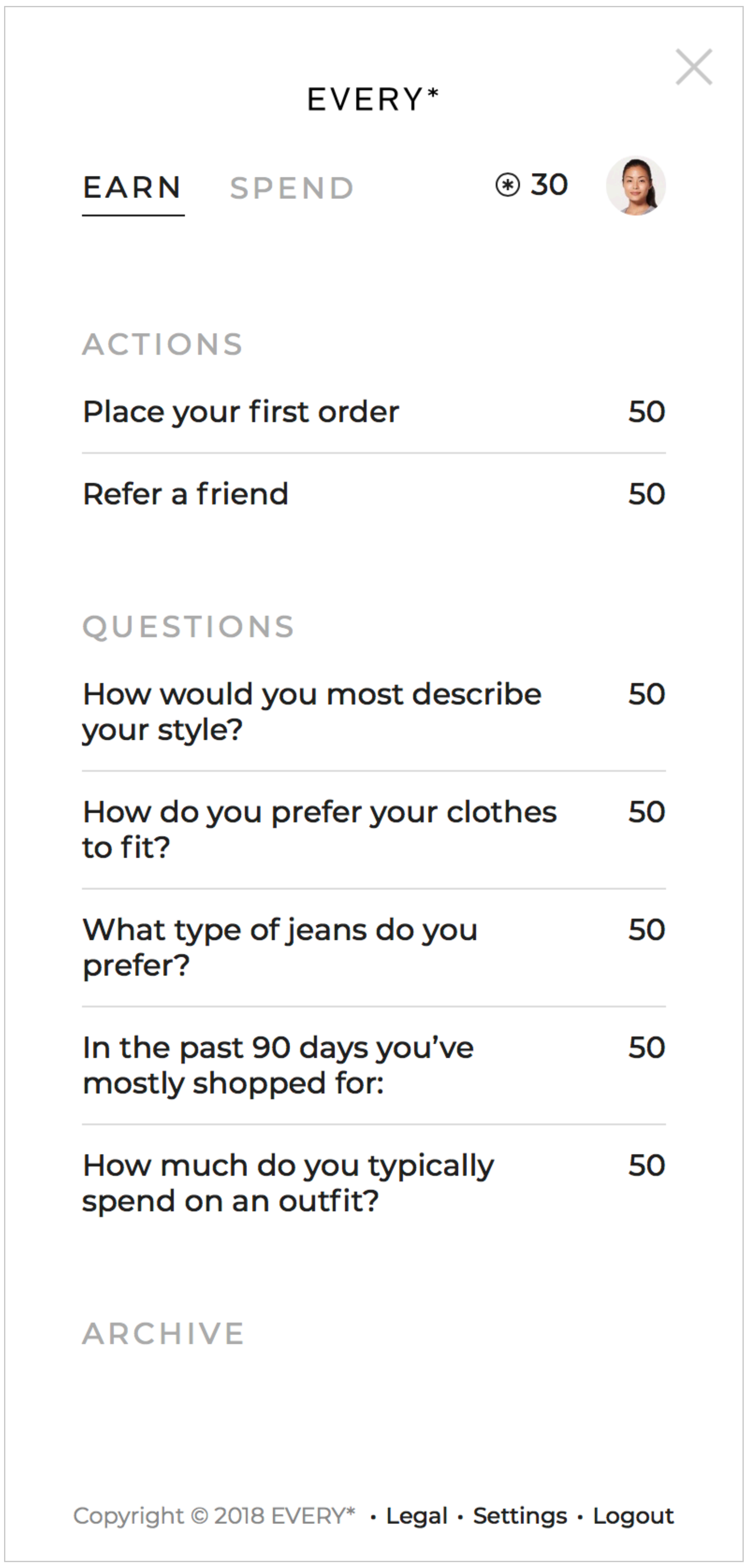
The EVERY* Wallet is responsible for managing the interactions with the database, the storage of the data, contains the API and interacting with the EVERY* protocol as a whole. There are a few different flavors of wallet.

SHOPPER WALLET

We are in progress transforming the alpha version of the wallet from an off-chain membership experience to a true cryptocurrency and data wallet that will do everything from managing Ethereum keys to collecting and encrypting data to signing data exchange transactions.

The first version of the wallet will be a web wallet with keys and data being stored in a browser's local storage. The wallet is being written to allow relatively easy Electron-based desktop applications and React Native-based mobile applications to be launched at some point in the future.

This first version of the wallet will feature an embeddable checkout flow on EVERY* Marketplace.



ACTIONS

Place your first order	50
Refer a friend	50

QUESTIONS

How would you most describe your style?	50
How do you prefer your clothes to fit?	50
What type of jeans do you prefer?	50
In the past 90 days you've mostly shopped for:	50
How much do you typically spend on an outfit?	50

ARCHIVE

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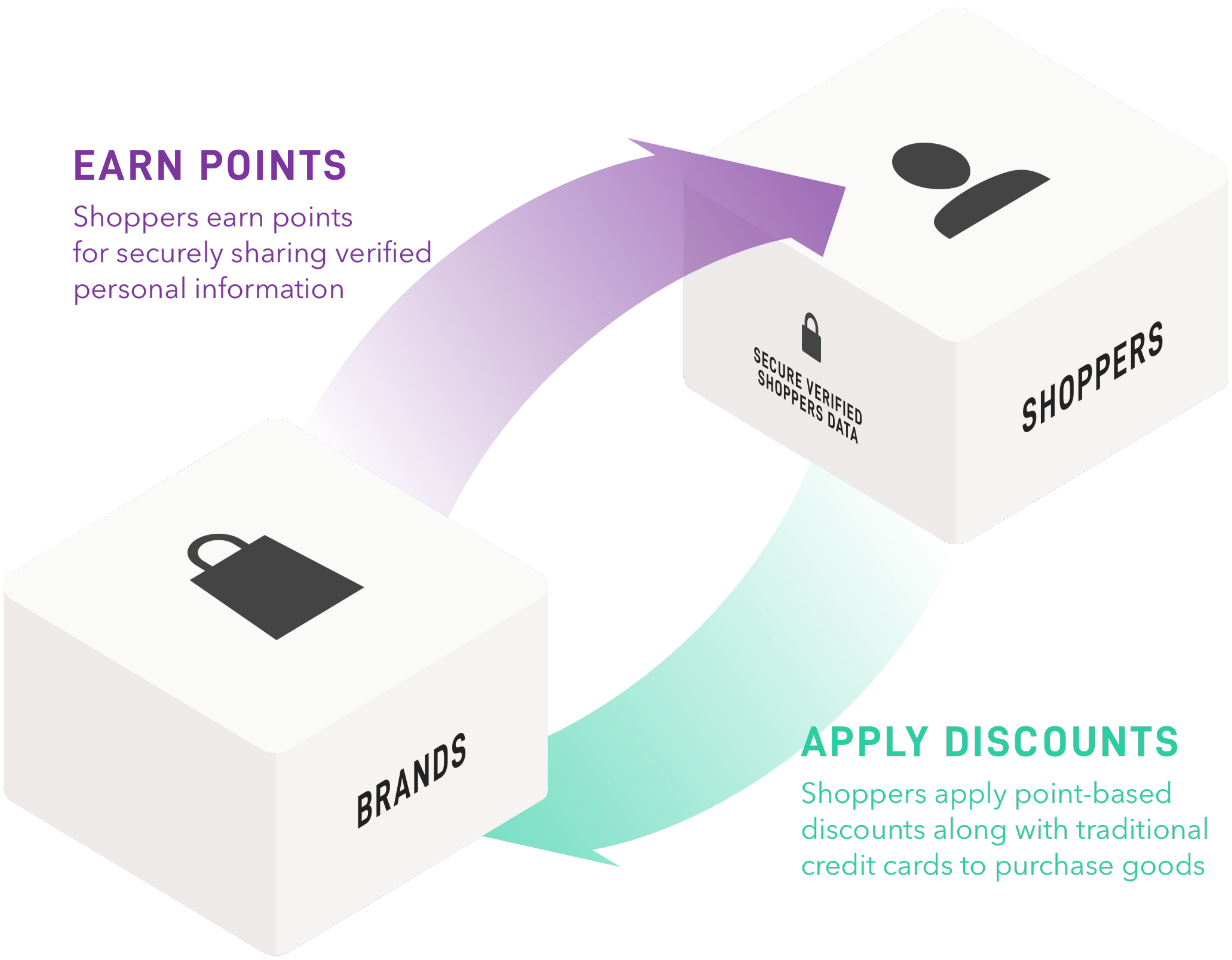
BUSINESS WALLET

The Business EVERY* Wallet is something that gives brands and sellers the ability to reference their respective inventory management contracts (on-chain) which enables them to track, products, stock units, orders, and purchases.



EARN POINTS
Shoppers earn points
for securely sharing verified
personal information

APPLY DISCOUNTS
Shoppers apply point-based
discounts along with traditional
credit cards to purchase goods

EVERY* TECHNOLOGY CONSIDERATIONS

IN THIS SECTION

EVERY* TECHNOLOGY CONSIDERATIONS

BLOCKCHAIN LIMITATIONS

In addition to solving for transparent and trustless value exchanges between EVERY* Co-op constituents, we need to consider the requirements of modern commerce applications.

First, solutions must be highly performant, scaling to tens of thousands of transactions per second at the high end. Sellers know that shoppers value response experiences and that poor performance will result in diminished sales.

Second, commerce applications generate large datasets, storing every detail about products, order history, shopper preferences, and more. Every part of the process is stored and audited in order to improve and better serve the shopper. The aggregation of these datasets across entities is what becomes the truly valuable piece of the EVERY* Protocol. This data cannot be stored on the blockchain as we know it today, but solving this constraint is paramount to building the EVERY* Protocol's value exchange.

Finally, data governance is crucial to the creation of an effective value exchange. The data sets that brands and sellers accrue help these companies more effectively build relationships with shoppers and sell products. They also tell deep stories about the companies. In fact, it is not enough to merely encrypt data associated with transactions because, for example, knowing transaction throughput in areas such as order volume would give competitors and other third-parties deep competitive insights.

EVERY* TECHNOLOGY CONSIDERATIONS

SOLVING LIMITATIONS

Scalability

Put simply, it is imperative that the Protocol is able to operate at speeds comparable to traditional eCommerce solutions. There is currently no way for that to happen pushing every transaction through Ethereum's public ledger. In addition, the proof-of-work consensus algorithm used by Ethereum simply will not scale to the necessary number of transactions.

On-Chain vs Off-Chain Transactions

The Protocol will only put required information on the blockchain. This means the EVERY* Protocol will use external application services while acting as a Layer 2 System, with many of the communications between two parties occurring off chain, only to have the results of their interactions ultimately recorded on the blockchain.

The Protocol will leverage generalized state channels to manage the 1:1 communication that is endemic to the commerce ecosystem. Examples include the back and forth between a shopper and seller as the shopper builds up a cart, the reporting of sales between a brand and retailer, and the internal workflows used for merchandising operations.

Consensus Algorithm

Even if most of the transactions in that occur on the EVERY* Protocol are pushed off-chain, the throughput of the Ethereum blockchain will not scale to handle volumes of transactions necessary for a commerce network. In the future, we will evaluate moving on to a network with a different and more performant consensus algorithm. While we are still early in the process of evaluating solutions such as RChain and Ethermint, much of the current research has been focused on Microsoft Coco.

See Appendix A for a discussion of how the Protocol would run if built on top of Microsoft Coco.

Data Governance

Data governance is the ability for data to only be permissioned, accessible, and mutable by appropriate parties.

One way that we'll ensure correct governance when allowing data be to accessed it through escrow contracts. An escrow contract for data access is used to hold funds in escrow until the data viewing key is determined to be valid. The data access escrow contract has several components

- The Buyer Address on the EVERY* Protocol;
- The Seller Address on the EVERY* Protocol;
- The Payment that the buyer sends to the escrow contract for the data;
- The Encrypted Data Viewing Key which allows the Buyer to look at Shopper Data Profiles.

Data Privacy

The privacy of the shopper data must be ensured in the EVERY* protocol, and it is possible that the encryption of the personal information may not be enough. In this case, there can be further encryption of details so that only accepted buyers can see these. This enhanced privacy would only allow verified buyers (based on a combination of staking and off-chain identity) would be able to see the addresses of the data on the Customer Profile. This would mean encrypting the IPFS addresses of the data with a public and private key that would be shared by the network, and would offer initial viewing of the information.

Data Forgeries

One concern regarding Shopper data profiles is their legitimacy. If a Shopper Data Profile is completely fake there is not as much of an issue, because the lack of consumer/seller interactions would make it undesirable to purchase. The bigger concern for Data forgeries would be a seller creating Shopper data profiles from already existing customers in their database. This would be hard to detect on-chain, but the problem could be solved through contact verification, or by integrating an on-chain identity solution like Civic. The consumers would then go through this to create their initial accounts.

Data Storage

The amount of data that the Protocol will generate, understand, and enable members to share is orders of magnitude too large to fit directly on the blockchain. In addition, the performance requirements of commerce use cases dictates that data must be highly available and easily queryable.

The EVERY* Protocol will achieve this through the Data Tier, which appears to commerce applications as a local database. However, the Data Tier is a fully decentralized data store which is subject to its own consensus algorithms. An early discussion of the Data Tier is found later in this paper.

Product Forgeries

As with any supply chain implementation on the blockchain, there are issues with products that are not produced by a brand, being recognized as a part of the brand. This issue is resolved in the EVERY* implementation by forcing the Brand to sign every Product SKU that it sends out. Since the Product Review is attached to the Brand's Product data profile, any forged SKU that the Brand signs can come back to bite it with a negative product review. Therefore, any brand cannibalization will be apparent from the get-go.

Malicious Actors

The EVERY* Protocol places a lot of responsibility on validators to handle disputes, which poses a concern for the damage they could do if they acted maliciously. If this becomes a real concern, the staking required for validators can be increased to make it more expensive to act maliciously, and there can be arbitrations to ban and slash validators that have been shown to act maliciously.

EVERY* TECHNOLOGY CONSIDERATIONS

3RD PARTY DEPENDENCIES

Blockchain

The current version of the EVERY* Protocol is built on top of Ethereum and utilizes the Ethereum Virtual Machine.

Storage

IPFS will be used for distributed storage and as the primary data store for the EVERY* Protocol.

Identity

For accountability purposes for brands, sellers, app providers, and developers, it may be necessary to have on-chain identities. This can be done through an identity network with the resulting data remaining private. Civic, Uport, and Sovereign are all potential options for an on-chain identity, with an end decision being based on what makes the most architectural sense for EVERY*.

THE EVERY* TOKEN

IN THIS SECTION

WHAT'S THE NEED?

EVERY* TOKEN UTILITY

TOKEN ECONOMICS

GOVERNANCE

NEXT STEPS

THE EVERY* TOKEN

WHAT'S THE NEED?

Given the nature of the control required to make this data economy function, a token is required to:

- Separate the EVERY* network from fluctuations of external tokens that are impacted by other protocols, governance, speculation, and economic conditions
- Give the EVERY* protocol the ability to create rules of governance around the token that are built specifically for retail EVERY* and creating a stable token with low volatility and high predictability
- Create incentive structures to drive demand, supply, and velocity of transactions occurring on the network and rapidly grow the network value

Given the lack of any existing token that would allow for such controls, minting a native EVERY* token gives the protocol the greatest opportunity to succeed.

EVERY* TOKEN UTILITY

The EVERY* token will be designed to support a democratic information marketplace. A wealth of information, from delivery options to shopper reviews, is created through interactions with the protocol. That information can then be accessed by any company and shopper in the marketplace in exchange for EVERY* tokens, which represent the value of the protocol's information. The EVERY* token is meant to do several things for the EVERY* network:

Staking

The staking of the EVERY* token is important for the EVERY* protocol because it ensures that all those that contribute to the protocol are incentivized to make it better, and it allows a slashing penalty for malicious actors in the Protocol.

Currency

The EVERY* token will be the primary currency in the ecosystem. Using the EVERY* token it is possible for brands and consumers to engage in transactions without the incurring the costs of traditional payment methods. These transactions will include:

- The Purchase information by members of the retail supply chain
- The Purchase products by consumers

Toll

The EVERY* Token will be used to pay for access to the protocol and ensures all Co-operative Members have an interest in the success of the protocol. These fees will come in part from data and app transactions.

TOKEN ECONOMICS

The EVERY* token will be designed to support an "information marketplace" that continually increases the amount and the velocity of information being shared between supply chain participants. This combination creates a powerful feedback loop that accelerates retail experience participation.

Information is created through all interactions with the Protocol, such as:

- consumer preferences
- product information
- delivery options
- inventory states

Information is used by all retail supply chain participants, such as:

- consumer targeting
- merchandising efforts
- fulfillment strategies
- logistics optimization

The value of the protocol's information will be represented in tokens. Tokens will be exchanged for information based on the value of that information to the whole democracy.

GOVERNANCE

A democratic and brand-led contributory governance is the natural and just outcome of a governing structure that directs the efficiencies of the protocol. Brands and participants can bring their strategic insights, learnings, and beneficial proposals to bear on the retail experience.

Information is used by all retail supply chain participants, such as:

- Supply chain participants will use them as access tokens and will have a right and obligation to participate in the growth, optimization, and success of the protocol.
- Supply chain participants will vote on how best to respond to consumer preferences. This activity will also define the going value of different value sets within the protocol.
- Shoppers will use tokens similar to loyalty points with the additional value of being able to vote on desired products, offers, and features as it relates to the customer journey.

NEXT STEPS

The current implementation of the EVERY* Protocol is meant to be the foundation for an evolving ecosystem that promotes the democratization of data. To keep this ecosystem thriving the protocol will need to scale. The next steps for promoting transaction throughput involve transitioning the network to Ethermint and incorporating one-way state channels for data transfer. These will ensure that the protocol can expand with demand.

The overarching future of the EVERY* protocol is to democratize data in the retail landscape. The next steps of this democratization would be to not only ensure that data is shared, but also to establish general schema through which a variety of apps can be built for. This would ensure that equal access to the value and insights created by this wealth of data.

Further aspects of evolution would include the addition of manufacturers to the EVERY* supply chain and even integrate point-of-sale systems for product purchases and product orders. This will allow all parties to take advantage of faster transaction times and cheaper transaction fees.

There will be a total of 1 billion tokens released over 8 years. Their allotment will be categorized in the way that best promotes platform growth, which is as follows:

EVERY*

THE RETAIL REVOLUTION

CATCH US FOR COFFEE

1601 5th Ave, 11th Floor
Seattle, WA 98101 USA
(down the street from Amazon)

CONTRIBUTE

tiger@shoppers.shop
+1-509-496-3638

APPENDIX A

MICROSOFT COCO

The consensus protocol will run as an Azure service, built on top of the Coco Framework and run on a Trusted Execution Environment (TEE). Members of the EVERY* Co-Op form a network of validating nodes (VNs) that is completely trusted and isolates the execution of smart contracts; each node runs the blockchain protocol – whichever the distributed ledger model relies on (Ethereum, Quorum, Hyperledger, etc.) – with the Coco framework.

For an application transaction, the business transactions by which the network is formed follow this data flow model:

1. Distributed app establishes connection with VN and sends transaction.
2. Host (a logical component of Coco framework) receives the transaction and passes it to enclave. It will then decrypt the transaction and send it to the adaptor of a particular block chain protocol.
3. Adaptor processes transaction by interacting with block chain protocol system.
4. Adaptor commits transaction to persistent store. And broadcasts it using consensus algorithm.

With a permissioned block chain, it should be noted that there is less need to solve 'difficult' or slow mining puzzles. Typically, only the nodes involved in a transaction will perform the proof-of-work to validate permissions, product information, bank information, and seller and purchaser identities.

In cases of malicious activity, however, the Coco framework will add the benefit of distinguishing between network members with voting rights, and network participants. In a quorum-style of governance, members have the ability to approve a transaction or change a protocol if they can achieve a majority vote. This feature is only enacted to de-permission activity and revert questionable transactions. The co-op by design will display a tendency towards centralization and in the case of a Sybil attack – when a small group of entities pretends to be a large group and spoofs the system, this mechanism provides an incentive to decentralize.

Validators will compute a maximally consistent subset of propositions to decrypt a shopper's data profile and/or product key. A group signature scheme is used for banking information encrypted with a host's public key that minimizes collision. Once there is consensus among the validators on the maximally consistent subset of propositions, the next block materializes on-chain that captures a window of historical transaction data.

We are interested in achieving consensus on the following statements:

- The product P, or data that a buyer C is receiving from a seller M, is the right one
- Each brand that rushes to provide accurate product data is proportionally compensated for participation in EVERY* tokens, even if C backs out without payment
- Seller M is receiving payment for sending P

CAUTIONARY NOTE REGARDING FORWARD LOOKING STATEMENTS

This content contains forward-looking statements that involve a number of risks and uncertainties. Forward-looking statements generally can be identified by the use of forward-looking terminology such as “believes,” “expects,” “may,” “will,” “intends, “plans,” “should,” or other variations thereof (including their use in the negative), or by discussions of strategies, plans or intentions. A number of factors could cause results to differ materially from those anticipated by such forward-looking statements, including those discussed under “EVERY PROTOCOL” and “VALUE MANAGEMENT.” Forward-looking statements are subject to known and unknown risks and uncertainties and are based on potentially inaccurate assumptions that could cause actual results to differ materially from those expected or implied by the forward-looking statements. Our actual results could differ materially from those anticipated in the forward-looking statements for many reasons.

DISCLAIMER

The offer and sale EVERY* has not been registered under the U.S. Securities Act of 1933, as amended (the “Securities Act”), or under the securities laws of certain states. EVERY* is selling this EVERY* Token with the understanding that it may not be offered, sold, or otherwise transferred except as permitted under the act and applicable state securities laws pursuant to an effective registration statement or an exemption. Token Purchases are only available to accredited investors during the Public Pre-Sale phase All purchases of tokens will be subject to Know Your Customer (KYC) Clearance Consistent with SEC rules and guidance, EVERY* Tokens should not be purchased with any expectation of profits