

Yaka Ecosystem

In the Yaka ecosystem, all interactions between individuals and groups are guided by the reputation of the various parties involved. Since reputation is derived from the party's own actions, they are in control of their destiny. While corporations, institutions and governments can still create their own rules and laws, the methods for maintaining privacy and security (and ultimately mutual trust and respect) are created using bottom-up self-sovereignty rather than top-down control. Self-sovereignty means that each of us has the ability to build and share a track record that allows us to work with others in a trusted manner, without having to ask for permission from any controlling third party.

The globaliD Namespace

The Yaka ecosystem is built on top of the globaliD namespace. In this namespace, every individual and group has a unique name around which their reputation is created and shared. No two people or groups can have the same name, so every name is unique. Furthermore, since the globaliD namespace is intended to cover all individuals and groups worldwide, it provides a single namespace for everyone.

Having a name is both a right and a responsibility: everyone is entitled to a name, and before you can be authorized to perform various actions, you must build up a suitable reputation associated with that name.

globaliD Attestations

Rather than having to share private information about ourselves, it is sufficient to share attestations associated with a name. For example, an attestation can prove that the owner of a

name is at least 18 years old, rather than revealing that person's exact date of birth. Other attestations can prove that the owner of a name is in control of a mobile phone number or bank account, without having to reveal these details to a counterparty when communicating or transferring funds.

Using attestations, products and services can be provided in a private, secure and trust-enhancing way, rather than needing to "out" our true identity each time we interact with another party. Risk and compliance controls can be achieved, and even enhanced, when attestations are linked to true identities on a legal need-to-know basis, rather than the spam-enhancing want-to-know basis typically associated with advertising and marketing requests.

Yaka Financial and Non-Financial Asset

Ledgers

In the Yaka ecosystem, both financial and non-financial assets are represented on universal ledgers that register the ownership of individual assets. These assets are associated with particular globaliD names, allowing the ownership of an asset to be tracked over time. Many of these assets are actually held in subordinate legacy ledgers belonging to particular banks or custodians, institutions, and/or governments.

To prove ownership of an asset, the user must first authenticate themselves as having the globaliD name registered as the current owner of that asset. If they wish to send, convert, load, move or spend the asset, the user must then request authorization, which will be granted or denied based on the level of risk and compliance controls needed within the jurisdiction in which they reside or operate.

Permission to Act

Name holders and their assets will often span different bank or custodian, institutional, and governmental jurisdictions. The permission to act is governed by the requirements of each jurisdiction in which the activity is taking place. For example, a globaliD user residing in the US may wish to purchase a historic firearm from another globaliD user based in Italy. Each jurisdiction (in this case, the US and Italy) have their own requirements which must be met before permission can be granted. The failure of either attested party to meet these requirements will result in a failed permission. In this example, the US and Italian parties to the transaction would have to meet any residency, watchlist, reporting, tax, or other jurisdiction based stipulations before permission would be granted.

Even though the attestations about the parties in question may come from different banks, custodians, institutions and governments, these attestations can be made in a form where they can be trusted by all the concerned parties and jurisdictions. All the concerned parties and jurisdictions must be satisfied for the requested action to occur.

The Attestation Registry as a Public Good

globaliD maintains a public registry of all the globaliD names and their associated attestations. This registry can be queried to decide whether or not a given name has the attestations required to perform a given action. Attestations are signed, and can only be generated through the provision of private information. However, the private information is kept private and not part of the attestation registry. As a result, the fact that the attestation registry is open and freely accessible can actually preserve privacy, enhance security and inspire trust.

The globaliD attestation registry is a public good that anchors the reputation attached to each globaliD name. Based on this registry, a public directory is available that lists all the individual

and group names worldwide. There is no notion of "security through obscurity" by having names that are selectively hidden from view. Every person and group, including those that might be considered as "bad actors" by some parties, has both a right and a responsibility to a name and its associated reputation. The globaliD namespace and its associated public attestation registry would be far less useful if it did not include everyone.

Self-Sovereignty versus Regulatory Jurisdiction

Before an attestation can be recorded into the public attestation registry, the owner of the name must consent to the attestation. Likewise, the third party generating the attestation must also give consent. Both the name holder and the attestor then *sign* the attestation, rendering it as valid and agreeing to it being written into the public attestation registry. The attestation is time and date stamped and remains in place unless one of the signing parties chooses to revoke it.

The self-sovereign right to be forgotten is balanced by the legal requirement to preserve the history of information that may have been provided by one party and relied upon by another party to perform a regulated activity. Blockchains are used to ensure the correctness of the globaliD namespace and attestation registry, even if they do not hold the underlying personally identifiable information which the attestations are based on.

The underlying personal information is encrypted and held by the individuals themselves, with encrypted backups stored in the cloud where they can only be retrieved by the individual themselves or their designated co-signers. In addition, particular items of personal information may be held in cold storage or otherwise secure vaults, to meet legal or regulatory requirements. This storage mechanism and methods may vary on a country-by-country basis where cross-border sharing or transport of data is restricted.

New names and their Initial Permissions

When a user claims a globalID name, they are initially prompted to create a phone number attestation. This is done by sending an SMS message to the phone number the user provides; this SMS message contains a random code that the user must enter in order to prove that they control that mobile phone number. This attestation provides the starting point for the identity's reputation. The user can choose to create additional attestations which are also attached to their name, for example by attesting to an email address, bank account number, or government ID.

Every new identity is also given a financial ledger and a registry for recording non-financial assets. These allow the name's owner to attach holdings of value to that name.

Limits will be imposed on the amount of value that the user can hold, send, convert, load, move or spend within a given time period. These limits may vary depending on jurisdiction the user is in, based on the location of their attested-to phone number.

Every name holder is also issued with bank routing information so they can transfer value to or from their globalID financial ledger using legacy banking and card networks such as Visa and Mastercard. This ensures that the user can interoperate with existing financial institutions, bridging the gap between the old and new ways of making transactions in our modern society.

For certain types of transactions such as load, move and spend, the bulk of activity is between the old and new ledgers rather than being entirely within our own ledger. This bridge is a temporary measure, needed to support the current situation where many transactions still need to go through a centralized intermediary such as a bank — intermediaries who often charge inordinate fees for, and sometimes arbitrarily restrict, the transactions they process.

The Yaka ecosystem supports a world where an increasing amount of activity can bypass these legacy banking solutions, occurring instead directly between the counterparties, and the associated transactions can be completed entirely within our ledger, while still respecting risk and compliance controls.

Yaka Tokens as a Spam Deterrent

The Yaka ecosystem is designed to allow globaliD users to hold *any* form of value within our ledger. The Yaka financial ledger supports all forms of currency, including fiat, digital and cryptocurrency. The non-financial asset ledger supports the recording and tracking of any asset that a globaliD user claims to possess, along with attestations by third parties about the veracity of these claims.

Both the financial and non-financial ledgers allow users to transfer assets from one globaliD name holder to another, by recording this transfer within the ledger. To protect the ledgers from spam and denial of service attacks, as well as protecting the globaliD system generally, users will be charged a minimal amount for performing any action that could expose us to these types of attacks.

These charges will be incurred in the form of **Yaka tokens**. Just as postage stamps introduce friction to the process of sending a letter, preventing spam and overwhelmed mailboxes, Yaka tokens are attached to actions, allowing those actions to occur in moderation. If the user doesn't have enough Yaka tokens, they can't perform the action. Yaka tokens protect the ledgers from abusive or fake transactional activity that might otherwise overwhelm the system.

The user is given an initial set of Yaka tokens, free of charge, and these are topped up regularly for all globaliD users whose conduct falls within normal rather than spam-worthy levels of activity. In this way, regular users can continue to operate as they wish, while those who attempt to abuse the system will be blocked as they will quickly run out of tokens.

Yaka Tokens as an Internal Currency

As well as adding friction to activities within the Yaka system itself, Yaka tokens can be used for other purposes. For example, the user might be rewarded for sending, converting, loading, moving or spending money within the Yaka ecosystem. Users can also choose to impose a fee for receiving messages, advertising and other traffic. This fee can be employed by the user as a spam deterrent, as well as a potential source of revenue. These rewards and fees are all collected and paid out in Yaka tokens.

While other forms of value, including fiat currency, stable coins and points systems could be used for these purposes, the use of the Yaka token simplifies accounting and reconciliation, especially as it operates across all jurisdictions and use cases. The Yaka token is a powerful tool underpinning the Yaka ecosystem. The other alternatives to Yaka tokens are envisioned as a necessary backup for operation where lack of regulatory clarity makes Yaka token use presently impractical.

The Role of Synthetic Liquidity

The only financial asset that is held directly on the Yaka financial ledger is the Yaka token. All other financial assets are recorded in the Yaka ledger, but the funds themselves are held in subordinate ledgers owned and operated elsewhere. For example, some funds may be held in the Dwolla ledger, while other currencies are held by GateHub. To the user, these funds appear to be on a single Yaka ledger, and in normal circumstances they won't know or even care which subordinate ledger is holding their money. In this way, the Yaka ledger connects the various subordinate ledgers together, providing a seamless experience for the user. If the user sends or converts funds, those funds may or may not stay within the same subordinate ledger, depending on which currencies are supported and the other limitations that apply to each individual ledger.

When funds have to be transferred between ledgers, a **market maker** accepts an inflow of value on one ledger in exchange for an outflow of value the other ledger. In this way, the market maker allows funds to flow across all ledgers as one connected ecosystem. For Yaka, the market maker (at least initially) is Synthetic Liquidity.

Synthetic Liquidity is a crucial enabling partner for Yaka, allowing the Yaka ecosystem to span all connected ledgers rather than just limiting activity to Yaka's own indigenous ledger.

To transfer money into or out of the Yaka ecosystem, users need to be able to transfer funds onto (or out of) the appropriate subordinate ledger. Because different currencies and users access different ledgers, Synthetic Liquidity needs to hold funds on all ledgers which globalID users may wish to transfer money into or out of.

As well as enabling inter-ledger transfers, Synthetic Liquidity also plays a key role in allowing currency conversions, and in supporting payments between globalID users.

To support currency conversions, Synthetic Liquidity accepts funds in one currency from a globalID user, and returns funds back to that user in another currency, at an agreed-upon exchange rate. Because Synthetic Liquidity operates as a kind of global treasury, it needs to prove that its collateralization is sufficient to back all the obligations in all the various currencies that it underwrites.

Rather than manage the gross exposure of all conversion transactions and resulting obligations, Synthetic Liquidity only needs to cover the net exposure because it offsets flows of conversions in one direction with countervailing flows in the opposite direction. Transparency reporting shows that Synthetic Liquidity is able to back all its outstanding fiat, digital currency and cryptocurrency obligations.

To support payments made between globalID users, Synthetic Liquidity enables inter-ledger transfers of value where the two users' funds are held on different subordinate ledgers. Where those payments are used for the purchase of items registered on the Yaka non-financial asset ledger, Synthetic Liquidity plays an additional role. In this case, Synthetic Liquidity operates as a good-faith escrow agent, holding funds in a suspense account until the purchaser states that they have received the asset in good condition, at which time the funds will be passed on to the seller. Synthetic Liquidity also operates an insurance / assurance / arbitration service to handle disputes between the parties where problems arise.

In addition to covering the FX risk of backing all value conversions on the ledger, Synthetic Liquidity also provides liquidity so that payments to a legacy banking or card network can be made in a timely manner. To do this, Synthetic Liquidity transfers sufficient funds to a regulated entity that is licensed to access the local payment rails so that payments can be made without delay. As a general rule, Synthetic Liquidity operates only as a wholesale lender to banks, money transmitters and other licensed entities that are allowed to interact with end users. As such, Synthetic Liquidity is not a money service business as it never provides services to end users, but only to those who are licensed to transfer funds.

Synthetic Liquidity charges fees in exchange for its liquidity provisioning and risk oversight. These fees pay a return on the risk capital it uses to perform these services, as well as building a reserve to cover business-*not*-as-usual losses from unforeseen events that would otherwise threaten the solvency of the Yaka ecosystem.

Synthetic Liquidity's capital is grouped into four tiers, as shown in the Yaka transparency reporting:

- Tier 1 capital represents funds that Synthetic Liquidity has on deposit with insured banks for use as coverage for all its obligations.

- Tier 2 capital represents funds that Synthetic Liquidity holds at non-bank but regulated exchanges that do not have government deposit insurance.
- Tier 3 capital includes funds that Synthetic Liquidity holds on non-regulated cryptographic ledgers.
- Tier 4 capital consists of all other Synthetic Liquidity holdings, regulated or not, that have some value. These holdings may not be instantly available at their full value.

All four tiers of capital are available as collateral against Synthetic Liquidity's obligations. This obligation includes the potential foreign exchange risk for currencies for which Synthetic Liquidity does not have 1:1 asset backing in its reserves.

Synthetic Liquidity is able to issue obligations in fiat currencies because it has access to holdings in those currencies at regulated institutions. Note that when governments themselves start to issue digital versions of their own currency, those governments will displace Synthetic Liquidity as the issuer of obligations in that currency. This is something that Synthetic Liquidity expects and welcomes. Rather than being a backer of obligations through layers of obligations, Synthetic Liquidity would prefer to act as a pure liquidity conduit between ledgers representing different forms of value. Synthetic Liquidity operates as a global central bank only as an interim necessity, essentially re-issuing digital forms of fiat currency as an expedient until sovereign nation's central banks are able to fill that role directly.

The Role of Hard Yaka

Hard Yaka is the funding engine for the Yaka ecosystem. Hard Yaka's funds come from the proceeds of past investments in a number of startups that have performed favorably, including Twitter, Square, Coinbase, Robinhood, and Ripple. Hard Yaka deploys funds as statements of work, equity, and loans/liquidity finance to entities that further the Yaka ecosystem. In

addition to the equity and debt holdings received for funds deployed, Hard Yaka expects to receive 10% of all Yaka tokens issued when the Yaka ecosystem is launched.

Hard Yaka's support for the Yaka ecosystem includes material investments in both inner-circle and outer-circle companies. Inner-circle companies include:

- **globaliD**: the creator of the globaliD Identity Name System, the public globaliD Attestation Registry, the globaliD app, and integration offerings such as globaliDConnect and localiD.
- **Yaka Labs**: the creator of the Yaka financial ledger, Yaka tokens, and the infrastructure needed to support Yaka fee distributions and loyalty/rewards programs.
- **Synthetic Liquidity**: the liquidity provider for the Yaka ledger, including treasury management and reporting on the collateralization of all obligations.
- **The GlobaliD Asset Registry**: a not-for-profit registry of all claimed and attested-to ownership of non-financial assets attached to globaliD identities.

In addition to these core inner-circle investments, Hard Yaka also has injected funds into a number of outer-circle companies vital to encouraging the uptake of globaliD:

- **Digital Exchanges**: non-bank but typically regulated digital exchanges where fiat and digital currencies can be held, bought, and sold. Examples include the Slovenia-based GateHub, the US-based Uphold, Wyre, Robinhood and Coinbase, and the Mexico-based Bitso.
- **Money Transmitters**: licensed brick and mortar as well as digital money transmitters. Examples include the UK/Lithuania based TransferGo and the US and Latin America based Viamericas and MoneyGram.

- **Card Issuers:** program managers for Visa and Mastercard issued debit, prepaid, credit and stored value offerings. Examples include the US-based Shift Payments and Marqeta, as well as the European-based Optimus Cards and Moni.
- **Merchant Acquirers:** reward and loyalty based offerings such as US-based Square, Empyr and Giftbit, the UK-based YoYo Wallet, the Canada-based TulipPay and the South Africa-based Yoco.
- **Marketplaces:** everything from US- and Mexico-based Roomi for roommates, to US-based Rova for courier deliveries, LedgerX for crypto derivatives, and Shift for auto purchases.
- **Lenders and Lending Facilitators:** including Singapore-based Lendo, India-based Simpl, and the US-based Kabbage.
- **Identity Providers:** including Scotland-based DirectID, and the US-based Blockscore, Blockstack, and Alloy.
- **Ledger Infrastructure:** the US-based Ripple, Solano, Lightning and Filecoin, and Israel-based Coti.
- **Browser Infrastructure:** US-based but worldwide-adopted Brave.

Some of the above companies have agreed to start integrating globalID as an initial step towards fuller integration into the Yaka ecosystem. Hard Yaka's investments are designed to make the companies more attractive for users, founders and investors.

Hard Yaka will continue to make investments in both inner and outer circle companies throughout 2019 and 2020, though the current set of companies are more than enough to build and test the viability of the Yaka ecosystem.

Regulatory Issues

In the US, new securities legislation has impeded the issuing of tokens. In China, there is an outright ban on the issuing of new forms of digital currency. These regulatory challenges may make it difficult, or even impossible, to issue Yaka Tokens in these markets.

A possible fallback option is to use fiat currencies, stable coins, or traditional points in these challenged markets. It is hoped, though, that regulations will change to allow Yaka to pursue the simpler and more scalable option of issuing tokens. If Yaka is able to issue tokens, they will be distributed in the following way:

- 10% will be issued to Hard Yaka, the founding sponsor for the ecosystem.
- 10% will be issued to the founding persons and organizations.
- 20% will be issued to participating end users, content providers and merchants.
- The remaining 60% will be issued to Yaka Labs. A proportion of these tokens may be allocated to globaliD, Synthetic Liquidity, and the globaliD Asset Registry.

One possible way of launching the Yaka ecosystem is through a Reg A+ security offering, raising up to \$50M in funding in the form of a "light" IPO. The funded ecosystem may then be able to issue dividends in the form of Yaka tokens, in the proportion outlined above. It is uncertain, however, whether the SEC will treat Yaka Labs as the security, and will allow the dividend Yaka Token to count as its own utility conduit rather than as a separate security in its own right.

There is risk over whether this will be allowed given that the token has a floating rather than a fixed value.

Unlike ICOs where startup ventures need to sell tokens to raise funds, Hard Yaka has already provided funding to build and support the Yaka ecosystem. Yaka tokens can therefore be used regardless of their value, as long as there is a ready market able to convert them to fiat currencies so that their value stays relatively stable. Yaka tokens merely simplify the accounting process for the overall ecosystem, which otherwise would have to cover the 200+ different fiat currencies for all countries in which potential globaliD users reside.

Further Reading

In addition to this white paper on the Yaka Ecosystem, there are a number of supporting papers that delve deeper into themes discussed herein:

- Portable Identity
- The Namespace for Identity
- The globaliD White Paper
- The Tokenization of Identity
- globaliD, Yaka, and Synthetic Liquidity Roadmap

Visit: <https://globalid.net/press-white-papers/>