TECH WHITE PAPER

1. Purpose

The goal of this project is to provide the world's first black empowerment crypto currency exchange to be used by business, non-profits, and within black families everywhere.

2. Scope

We are a digital currency platform that embraces and supports the economic systems of the black community. This dashboard wallet interface can be accessed on all devices through the website as a decentralized application built on a secure enterprise blockchain platform.
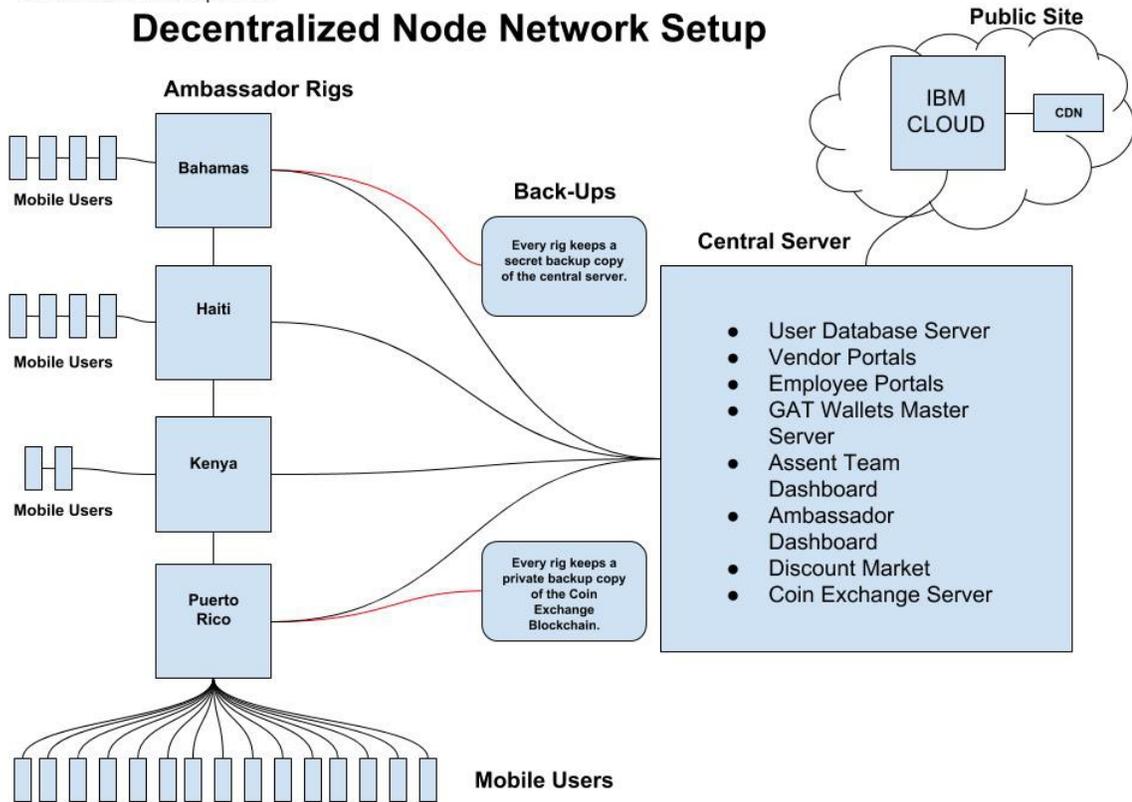
3. Product Perspective

3.1 System Interfaces:

Users can access our custom dashboard to make transactions or they can use a third-party browser wallet. The blockchain network would be our private consortium of blocks located on our private servers hosted by Token Ambassadors world-wide. All token ambassadors are verified in order to create their own node, and connect to the central server.

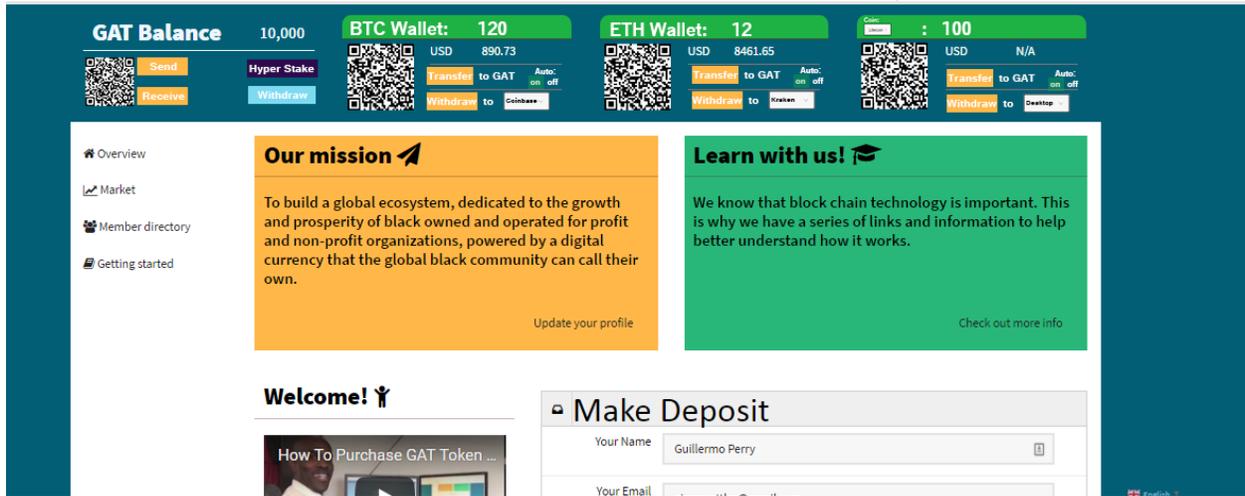Our network structure will look something like this:

SableAssent Coin Corporation

Decentralized Node Network Setup

Ambassador Rigs

Public Site

IBM CLOUD — CDN

Bahamas

Mobile Users

Haiti

Mobile Users

Kenya

Mobile Users

Puerto Rico

Mobile Users

Back-Ups

Every rig keeps a secret backup copy of the central server.

Every rig keeps a private backup copy of the Coin Exchange Blockchain.

Central Server

- User Database Server
- Vendor Portals
- Employee Portals
- GAT Wallets Master Server
- Assent Team Dashboard
- Ambassador Dashboard
- Discount Market
- Coin Exchange Server

3.2 User interfaces:

A first-time user of the dashboard will opt to sign in from the main SableAssent.com login page. Once logged in, the user will see their wallet dashboard with navigation links on the left. Every user will be able to edit their personal wallet details, manage their own accounts, and download the mobile app from the main wallet dashboard.

General User Example Interface:

Token Ambassador:

3.3 Hardware Interfaces:

All users will have the option of securing their dashboard wallet keys with physical token wallet storage devices called Hardware Wallets. Here are two examples:

    a.   Ledger wallet - https://www.ledgerwallet.com/

    b.   Digital Bitbox - https://www.cryptohwwallet.com/digitalbitbox.html

Token Ambassadors are required to purchase a physical node in order to insure hardware consistency across the entire network. Please click here to see the entire Token Ambassador rig proposal: https://sableassent.com/token-ambassador-rig/

3.4 Software Interfaces:

3.4.1 Ambassador Dashboard
Only Token Ambassador Users that opt to administrate and run their own node will then be required to manage and administrate an entire copy of our private blockchain. This interface is used to manage the local instance of the block chain and enforce consensus between all nodes. This interface variation would allow the dashboard wallet exchange to operate in a decentralized state.

3.4.2 Assent Team Dashboard
This interface is used to manage asset team opportunities and contracts. Assent team members can use this interface variation to accept statements of work, update project status, track and receive payments.

3.4.3 Vendor Portals
This interface is used to manage private vendor access to the blockchain.

3.4.4 Employee Portals
This interface is used to manage Sable Assent employee access to the blockchain.

3.4.5 Discount Market
All users will be able to access advertisements from business users for discounts and promotions on everyday products and services.

3.5 Communications Interfaces:

Web wallet users will communicate with our central server over https protocol. Ambassador rigs are preconfigured with mobile internet hardware systems as well as ethernet connection capability.

3.6 Memory Constraints:

The web wallet will only use as much RAM as the normal browser uses. The size of the network will determine how much memory is used on the client side if the user is required to run a node.

3.7 Operations:

User Story specifications
Actor-Goal list
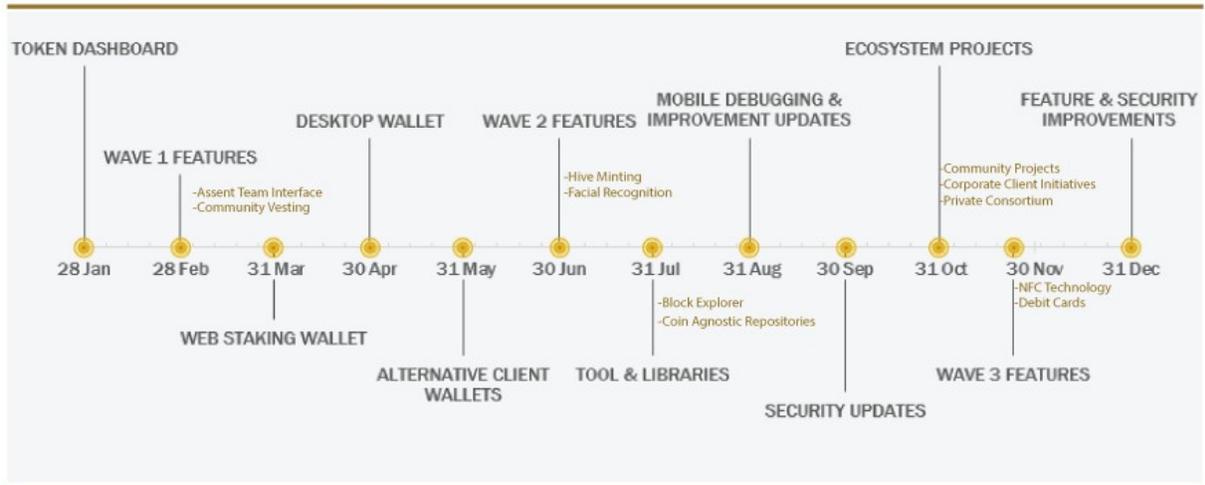
Actor	Goal

Token Ambassador (Decentralized Application & Node Administrators)	1. Verify all vendors. (Add, remove, modify). 2. Receive crypto-tokens. 3. Send token crypto-tokens. 4. Mint new crypto-tokens for Sable Assent. 5. Deposit currency. 6. Withdraw currency.
Vendors (Fully-Verified token users)	1. Receive crypto-tokens. 2. Send crypto-tokens. 3. Exchange crypto-tokens with Sable Assent. 4. Publish news items. 5. Follow token crypto-token status. 6. Verify Identity with Ambassadors. 7. Deposit currency. 8. Withdraw currency.
Assent Team (Self-Employed Service Providers)	1. Review and sign Vendor project agreements. 2. Receive crypto-tokens. 3. Send crypto-tokens. 4. Exchange crypto-tokens with Sable Assent. 5. Follow token crypto-tokens. 6. Update vendor marketing project status. 7. Deposit currency. 8. Withdraw currency.

Token Holders (Partially-Verified token users)	1. Receive crypto-tokens. 2. Send crypto-tokens. 3. Exchange crypto-tokens with Sable Assent. 4. Follow crypto-token status. 5. Review and sign Sable Assent terms and agreements.

3.8 Site Adaptation Requirements

The web wallet will be the initial focus for launch. We will add the Token Ambassador feature of node operations once the web wallet is up and running. Also, desktop and mobile versions of the light app will roll out throughout the year as specified in the development roadmap:

Development Roadmap

TOKEN DASHBOARD

ECOSYSTEM PROJECTS

WAVE 1 FEATURES

DESKTOP WALLET

WAVE 2 FEATURES

MOBILE DEBUGGING &
IMPROVEMENT UPDATES

FEATURE & SECURITY
IMPROVEMENTS

-Assent Team Interface
-Community Vesting

-Hive Minting
-Facial Recognition

-Community Projects
-Corporate Client Initiatives
-Private Consortium

28 Jan   28 Feb   31 Mar   30 Apr   31 May   30 Jun   31 Jul   31 Aug   30 Sep   31 Oct   30 Nov   31 Dec

-NFC Technology
-Debit Cards

WEB STAKING WALLET

-Block Explorer
-Coin Agnostic Repositories

ALTERNATIVE CLIENT
WALLETS

TOOL & LIBRARIES

WAVE 3 FEATURES

SECURITY UPDATES

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5. User Characteristics

Token Ambassadors - Decentralized network of GAT network administrators.
Corporate Vendors - Independent business owners.
Assent Team - Self Employed service providers.
Token Holders - Unverified users and holders of the public GAT token.

6. Limitations

Node Power consumption

7. Assumptions and Dependencies

One fundamental concern in blockchain technology is the confidentiality of the data on the blockchain. In order to reach consensus between all independent nodes in a blockchain network, each node must be able to validate all transactions (for instance against double-spent), in most cases this means that the content of the transactions is visible to all nodes. Fortunately several solutions exist that preserve confidentiality on a blockchain (private transactions, Hyperledger Fabric Channels, Payment Channels, Homomorphic encryption, transaction-mixing, zero knowledge proofs etc.).

On our node network, the Token Ambassador is responsible for a full node. Tasks include verifying every new vendor application that comes onto the network. The Token Ambassador deposits $10,000 into the network and has vested interest in assuring that every vendor is fully verified. If verification is not done correctly the Token Ambassador will have a small portion of their stake deducted.

8. External Interfaces

Decentralized computation platform: https://www.truebit.io/
Blockchain information APIs: https://blockchain.info/api/charts_api
https://www.cryptocompare.com/api/#-api-data-coinlist-

9. Functions
This is a summary of the major functions the app will perform.
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Custom Functions:

Here is a list of custom functions that need to be created by our team and implemented into the exchange application:

1. Facial Recognition
2. Near Field Communication (Tap' N' Go Technology)
3. Decentralized Crypto-token Exchange

Extended feature functions will be put together by the development team during brainstorming meetings. The main functions have been described in section 4 of this document.

10. Verification
a) **Form Validation** - There are different types of form validation that you'll encounter on the web:

- Client-side validation is validation that occurs in the browser, before the data has been submitted to the server. This is more user-friendly than server-side validation as it gives an instant response. This can be further subdivided:
  - o JavaScript validation is coded using JavaScript. It is completely customizable.
  - o Built in form validation is done with HTML5 form validation features, and generally doesn't require JavaScript. This has better performance, but it is not as customizable.
- Server-side validation is validation that occurs on the server, after the data has been submitted — server-side code is used to validate the data before it is put into the database, and if it is wrong a response is sent back to the client to tell the user what went wrong. Server-side validation is not as user-friendly as client-side validation, as it requires a round trip to the server, but it is essential — it is your application's last line of defense against bad (meaning incorrect, or even malicious) data. All popular server-side frameworks have features for validating and sanitizing data (making it safe).

b) **Key Validation** – Hyperledger technology performs the key validations on our exchange server.

c)**Negative Proofing** - Since the main blockchain we are using is private, whether it is used only by us internally or by multiple parties, it will be anchored into the Ethereum blockchain periodically to prove it wasn't altered in any way (Factom does this for example). Once we have that, we would also need to periodically archive a complete copy of the blockchain (or at least the relevant slice between two anchors) as part of a future audit. If it is our internal blockchain, it would be analysed in whole, if it is shared - we would need to indicate which parts we used just like in the public blockchain scenarios. We will then create our final data compilation for our audit, consisting of:

- The entire block history in the slice of time we are analysing.
- Whatever else is needed to prove the block history was unaltered. This can come in block header chain up to the newest Bitcoin block, simplified-payment-verification-esque branches of anchor transactions included in blocks, etc..
- Our original commits to the addresses we would use (if applicable), along with the necessary proofs that we committed to them at the appropriate time.
- Any relevant metadata we wish to submit (descriptions of which transaction was for what, etc.)
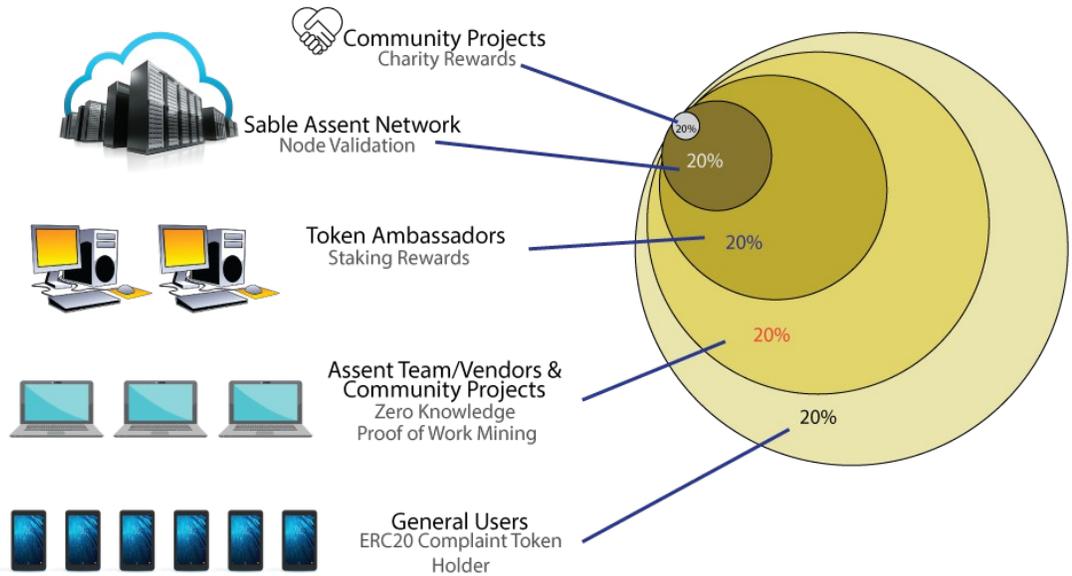
Finally, we would have not only a cryptographically verifiable proof that all of the transactions took place, but also have irrefutable proof of the time frame they took place in (we couldn't forge a few extra transactions from last year after the fact) and be able to prove that we didn't omit any piece of data - creating a negative proof.
The last one is possible because the records we are dealing with are cryptographically sealed (we can't alter the blockchain without invalidating its future, which would be evident), but also public and finite (we CAN iterate over every block and every transaction and check whether it is relevant to the audit or not). This way we not only provide every relevant transaction, but prove there are no relevant transactions we didn't provide.

Thanks to the advent of cryptography and blockchain technology with atomic, countable transactions, it is now possible to create undeniable cryptographic provable complete audits. Hopefully this will help us avoid more audit fraud cases in the future.[2]
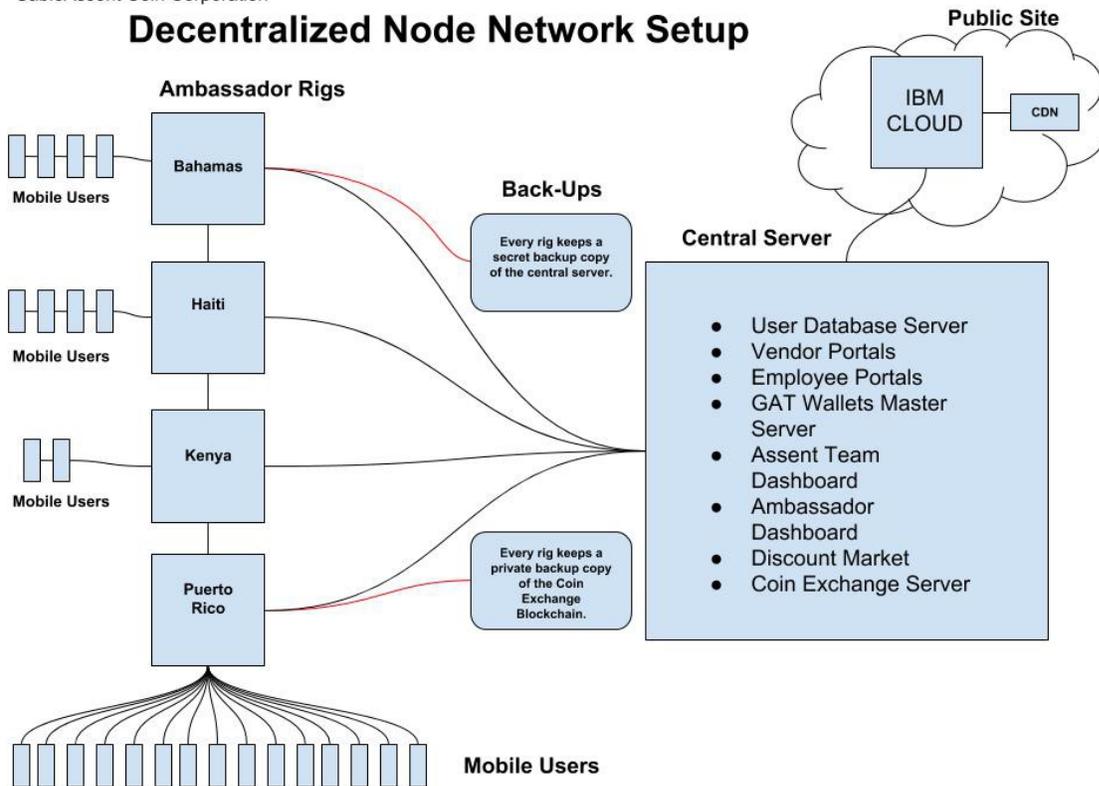

11. Supporting Documentation

GAT Network Fee Structure

Community Projects
Charity Rewards

Sable Assent Network
Node Validation

Token Ambassadors
Staking Rewards

Assent Team/Vendors &
Community Projects
Zero Knowledge
Proof of Work Mining

General Users
ERC20 Complaint Token
Holder

20%
20%
20%
20%
20%

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Mobile Users

Resources

[1] Retrieved from: https://www.ingwb.com/media/2122048/zero-knowledge-range-proof-whitepaper.pdf

[2] Retrieved from:
http://tpbit.blogspot.com/2016/01/positive-and-negative-proofs-in.html

-Written and compiled by Guillermo Perry