Titanium Blockchain

INFRASTRUCTURE SERVICES

TBIS

WHITE PAPER

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EXECUTIVE SUMMARY

Titanium Infrastructure Services: The Ultimate Strength of the Blockchain… Unleashed™.

- Titanium Blockchain Infrastructure Services (TBIS) finally answers the question: "What if an entire IT enterprise could be virtualized, including data centers, firewalls, load-balancers, routers, switches, network appliances and servers?"
- TBIS intends to disrupt the current market leaders in the provisioning and virtualization space.
- Services Will Include: Company as a Service™ (CaaS), Bring Your Own Cloud™ (BYOC), DEXchange™, Infrastructure as a Service (IaaS), Monitoring as a Service (MaaS), Blockchain as a Service (BaaS), Mining as a Service™ (MIaaS), Instant ICO Incubator™ (III), etc.
- TBIS is developed on the blockchain platform, so all changes in the environment and assets will be recorded on an immutable ledger, to correlate with standard IT change management and ITIL methodologies.
- Follow-the-Sun enterprise management and monitoring services, autonomous healing, and optimized disaster recovery and redundancy mechanisms will allow TBIS to virtually guarantee close to 100% uptime of devices, applications and services, making them a market leader.
- Since TBIS would operate on the blockchain, the days of Distributed Denial of Service (DDoS) attacks and other black hat hacker exploits would effectively be over.
- Most, if not all, of the issues associated with similar cloud server products would be solved.
- The TBIS Administrative User Interface (UI) is intuitive and the simplest to use in the industry, and will be available as a thick client, web-based thin client, and mobility applications on both Apple's iOS and Android platforms.
- UI wizards will allow administrators to create any component of their infrastructure in mere minutes, designed in alignment with their growth factors, technical requirements and business drivers.
- A unique capability to create virtual cryptocurrency miners will be included in TBIS services, allowing customers to spin up emulated ASIC and/or GPU miners with a specified hash rate.
- Mean Time to Repair (MTTR) will be significantly hastened, minimizing the cost of outages.
- Cost of ownership (COO) will be reduced to minimal levels.
- Return on Investment (ROI) will be achieved far faster than with traditional cloud-based solutions.

Background

Since the advent of the idea of an interconnected network in the 1960s, very little has changed regarding internet infrastructure. While today's internet has infinitely more interconnected servers, home computers, and most importantly, users, the functional technological framework has not changed since the first envisioned by the computing pioneers of the '60s and '70s. Of course, server technology has improved since the first network arrays such as ARPANET, but the fundamental infrastructure hasn't changed – it is still based on large data centers and is centrally controlled by large companies who have their own interests at heart; these interests are not necessarily yours.

In 1999, the invention of virtualization software allowed for the creation of virtual machines (VMs) on high capacity servers. This saved companies around the world billions of dollars and allowed for the rapid growth of the consumer webhosting industry as hundreds of low traffic websites could be hosted in a very small amount of rackspace as "servers" could be brought into being with the touch of a button. However, even in this situation, a disproportionate amount of power was placed in the hands of relatively few companies. Even today, up to 70% of internet traffic passes through server farms concentrated in Northern Virginia and operated by a single company.[1] While the status quo *works*, it is far from the ideal decentralized and democratized internet envisioned by our technological progenitors and which is only now becoming a possibility.

Welcome to the new world brought to you by Titanium Infrastructure Services (TBIS); We Are the Revolution.

1 As of the time of writing, roughly 70% of all internet traffic passes through AWS server farms scattered throughout Norther Virginia. This centralization introduces a fundamental weakness to the entire infrastructure of the Internet; it is to solve this problem that TBIS was designed. Source: http://www.nextgov.com/big-data/2016/01/70-percent-global-internet-traffic-goes-through-northern-virginia/124976/

A New Era

Today, the largest transportation company in the world owns no cars (Uber), the largest hospitality company on the face of the planet owns no hotels (AirBnB), the largest retailer carries no stock (Alibaba), and the world's most popular media network creates no content (Facebook). Clearly, we are living in a time of radical change. Why should internet infrastructure be any different?

TBIS is proud to introduce Infrastructure as a Service (IaaS). Today the internet, considered collectively, represents an estimated 11.5 million petabytes of data. As enormous as this it, it is dwarfed by the potential of a fully integrated and interconnected global network scattered throughout the billions of desktops, servers, and networked devices. It is the leveraging of this system to which TBIS is dedicated. With completed proof-of-concept models created and functioning infrastructure forged by the greatest minds in the distributed computing industry, TBIS will completely revolutionize internet infrastructure.

Just as steel changed the building industry forever, Titanium will usher in a new era of network construction. With TBIS' proprietary IaaS, every device, from enterprise level on down, can be virtualized; routers, firewalls, and specialized equipment such as cryptocurrency miners, can exist in an entirely cloud-based environment. Paired with cutting-edge enterprise management and monitoring technology, this will create a shock-proof internet infrastructure that will be both lightweight and utterly revolutionary in scope. The distributed TBIS system will monitor the health of the network execute autonomous "healing" actions when specific weaknesses are detected. With Titanium Hydra Fault Tolerance, if a device falters, TBIS will have already shifted load away and onto another network of redundant nodes. If a potential security problem arises, the TBIS system will work automatically to limit the potential impact of attacks such as DDOS or other address-specific attacks; it is impossible to overwhelm a piece of equipment that exists only on the ether.

The backbone of the TBIS system is the Service Level Agreement (SLA) which can be constructed to virtually guarantee 100% uptime of all devices, applications, and mission-critical services. The Titanium Control Panel will make it possible for even an inexperienced user to create SLAs that will be able to support enterprise-level support and network infrastructure for any person or company that has decided to be a part of the coming Titanium Revolution.

In short, TBIS IaaS will render current infrastructure services, from web hosting to any network support device, archaic, obsolete and utterly useless. Just as iron supplanted bronze, Titanium is elemental to the future of the internet.

Mission Statement

Our Mission:

> *"Our mission is to leverage the power of the immutable blockchain to provide virtual infrastructure services for businesses and individuals, creating a Titanium-clad guarantee of reliability which had previously been wholly impossible."*

Our team firmly believes in the disruptive power of the blockchain. Already, global business and finance are being transformed and disrupted by blockchain technologies. TBIS has already completed trials that demonstrate that it is possible to create entire infrastructure systems on distributed and redundant systems. Imagine a world in which businesses no longer need to have a networking closet full of expensive and temperamental equipment that rapidly becomes obsolete, requires tender care and reduces productivity through down time or general digital surliness. All of the decaying equipment with yellowing casings can be replaced with digital titanium for a fraction of the cost of acquisition and maintenance of hardware infrastructure, all while increasing uptime and reliability and completely eliminating maintenance.

TBIS's Infrastructure as a Service (IaaS) is a powerful and timely platform which is needed to usher in a new era of productivity for companies and individuals around the world by providing end-to-end internet infrastructure.

Core Objectives

Titanium Infrastructure Services (TBIS) has the following core components:

1) **Infrastructure as a Service™ (IaaS™):** The core objective and primary goal of TBIS is the creation and propagation of a shockproof distributed network infrastructure capable of replacing the bloated and inefficient hardware foundation upon which the internet of today is based. *In essence: to build a better internet that cannot be controlled or destroyed by anyone and is open for all.*

   This will include but is not limited to:

   a) Maintaining and Enhancing TBIS' existing enterprise virtualization software package which enables the creation of network components such as servers, routers, switches, etc., in a distributed environment
   b) Building and remaining as the *de facto* platform for creating, maintaining, patching and upgrading distributed enterprise IT environments
   c) Making it quick and simple to virtualize entire enterprise-level infrastructure environments while simultaneously decreasing the cost-to-consumer and downtime while increasing network reliability, security, and convenience
   d) Website hosting through the Titanium Virtual Server System will be more reliable than existing shared hosting because unlike a traditional server, which can go down, the TBIS servers will guarantee constant uptime and dramatically increased security
   e) Implement the cutting-edge TBIS Enterprise Management Software with autonomous healing and security functions include in the Titanium Hydra Fault Tolerance Suite for all monitored elements and network components

2) **Desktop as a Service™ (DaaS™):** The creation of a distributed internet infrastructure also makes it possible to host entire user computers on the Titanium Cloud. Using the custom designed ultra-light TitaniumOS, TBIS users will be able to access their entire computer from any publicly available terminal or smartphone. Through navigating to their personal encrypted Titanium Desktop, they will be able to use their computer just as they would use any website. Titanium Virtualization Technologies will protect their data, ensure uptime and reliability, and make viruses and targeted attacks a thing of the past through implementation of the Titanium Hydra Fault Tolerance Suite.

   Leveraging state-of-the-art SHAKE256 Titanium Sponge Cryptographic Techniques, the user's files and TitaniumOS will be future-proof encrypted and yet will remain accessible to the user with the Titanium Key. This will combine ultimate encryption and security while also allowing for ease of access.

3) **Company as a Service™ (CaaS™):** This is an automated wizard which will allow a user to start a new business from square one through leveraging the power of Smart Contracts. Anyone who has attempted to start a business in the past is aware of the challenges presented by meeting legal requirements to establish a business.

   Through CaaS, TBIS will be able to supply entrepreneurs with the critical support they need to get their business off the ground by completing tasks such as:

   a) Registering for Business Licenses
   b) Creating Business Bank Accounts
   c) Filing Trademarks and Patents
   d) Incorporating
   e) Leasing of office space or equipment
   f) Hiring employees or independent contractors
   g) Securing advertising space
   h) Domain registration and host acquisition
   i) Etc.

   From a legal standpoint, these Smart Contracts will save business more than just time in the creation of businesses. Smart Contracts, encoded in the immutable TBIS Blockchain, cannot be tampered with or altered in any way. Once a contract has been signed, it has been etched into Titanium and will exist in perpetuity.

4) **CryptoEscrow™**: This service allows the TBIS user to use any supported cryptocurrency to purchase items, auction items, etc. and leverage an Ethereum-based escrow service based on the Smart Contract. This would enable buyers and sellers to conduct transactions free of the worries typically associated with online purchases.

   The Titanium CryptoEscrow™ would make it possible to:

   a) Buy and sell online for any amount in any approved cryptocurrency without fear of non-delivery. This system is designed to use a very simple smartphone interface that will require no experience or coding background. It is so easy, your grandmother could do it.[2]
   b) Generate Titanium Smart Contracts using the TBIS Blockchain and the Titanium DEX (below) to manage payment and logistics. This contract will consist of a two-part SHA256 hash which will be given to both buyer and seller, and only once these two pieces are united and delivery takes place will the funds be released from the escrow.

2 How this might work in the real world is that Alice might hire a courier firm to deliver to Bob a guitar he purchased from Alice – under instructions to only hand over the guitar once Bob has given them the pre-image which fulfils SHA256(key) = HASH. Once they have this key they may send a transaction to the blockchain themselves (or have Alice do it), to release the cryptocurrency. The end result is that Bob has his prized guitar, and Alice has received her payment in the cryptocurrency of her choice. However, if Alice does not receive the correct random number from Bob during an allotted time period, the contract is voided, and the cryptocurrency is returned to Bob. An example of such an escrow contract coded in the Solidity coding language can be found in the appendix at the end of this White Paper. With that said, TBIS is actively working on strategic partnerships with other companies (also delineated below), one of which provides an intuitive UI that anyone with basic computer experience can use to create smart contracts. No Solidity, etc. coding experience is necessary. Your Grandmother could do it.

5) **Bring Your Own Cloud™ (BYOC):** Beneath the surface of the Titanium Infrastructure there will be an entire suite of services that will change the computing world. Central to this effort is the desire to help users create a truly private computing environment. This can be achieved through BYOC.

   People can join the BYOC secure computing environment by contributing hashpower to the network. BYOC is based on a PoW ERC20 token which generates an ever-changing hash for communications encryption. When a user joins, they will be connected to a service that will download an open source Linux VPN application. Users can opt to use their own cryptocurrency miner as long as it meets the minimum requirements for OS platform, CPU, RAM, etc. Alternatively, of course, one of the many virtual miner emulation choices available via the MIaaS TBIS offering could be leveraged. Please note that the BYOC service can be used for many other functions, such as webservers, file servers, etc. A cryptocurrency mining device is only be used as an example. TBIS will provide a Centos Linux OS ISO image which has a special kick-start function, to bring the device online and initiates a minimum amount of hashing on the local GPU. At this point, the kickstart server can deploy to any server/device you connect in your private cloud environment. For mining hardware, BYOC will facilitate high-end servers being used as cryptocurrency miners.

   For an ultra-secure computing environment, users can join the TBIS Instaminer Network. Based on micro-computers, which can be acquired from TBIS, a security context with the peer-to-peer blockchain can be established. If someone attempts to add a device via a method that does not include the TBIS micro-computers, the device will not be allowed to communicate on the network. The TBIS micro-computer will have an open VPN for security and will be able to deploy images to servers and miners in the local environment. Once the security context is established, files beyond the vanilla Centos OS will be obtained via our own git repository and docker swarm infrastructure. In short, the use of the TBIS micro-computer will make setting miners and servers up completely automated.

6) **DEXchange™:** Cryptocurrencies and blockchain technologies are centered around decentralization. However, many cryptocurrency exchanges of today are based on centralized systems which are controlled by outside entities. The TBIS Titanium Exchange will provide initial support for the top ten fiat currencies used worldwide, and allow for exchange trading with the top one-hundred cryptocurrencies as per https://www.coinmarketcap.com in an entirely decentralized fashion. Of course, TBIS reserves the right to increase or decrease the number of fiat currencies and cryptocurrencies it supports with future releases of the product.

7) **Instant ICO Incubator (III)™**: At TBIS, we know how hard it can be to get everything together for a token launch. If you have a brilliant technical idea, but need the marketing and organizational backing to bring it to life, the Titanium Instant ICO Incubator™ will take the guesswork out your token launch through providing end-to-end launch services. Also, a *Titanium Clad Accreditation* will be created and granted to ICOs that have undergone a deep-dive due diligence by Titanium

personnel. There will be no guesswork, as to which ICOs are credible and primed for investment. For instance, where these accreditations are supported, Titanium will require our ICOs to have both a Better Business Bureau (BBB) and Duns & Bradstreet accreditation. Titanium does all the work for you, so your investments are as safe as possible.

The over-arching goal of Titanium Blockchain Infrastructure Services is to provide the capability for virtualization of equipment, running the gamut from simple routers, to specialized equipment such as cryptocurrency miners. Through virtualization, TBIS will be able to help guarantee that your equipment will stay updated, patched, and ready to function to protect the interests of your business.

For example, in order to remove the hazards associated with new technology being introduced that makes current mining rigs obsolete. With TBIS IaaS, you would simply run a wizard in our UI to replace a GPU-based mining rig with an ASIC mining device. When new ASIC boards are released that are more energy efficient and have a significantly greater hashing rate, the virtual boards can be upgraded, etc., by drawing on our global network of computing power.

Token Mechanics and Sale Details

This Token Mechanics and Sale Details summary does not constitute an offer to sell or a solicitation of an offer to buy TBIS's token, called "BAR", and is provided for informational purposes only in respect of TBIS's platform. The following summary reflects TBIS's current expectations with respect to token mechanics and sale of BAR, which are subject to change.

Soon, the TBIS token (BAR) will be sold. As part of this sale, a fixed pool of BAR will generated. **No further BARs will be created in the future. BAR will be a deflationary currency.** Once the sale concludes, a portion of BAR tokens will be allocated and given to the TBIS team as an incentive for the success of our platform, and a separate portion will be held as a reserve pool and expenditure fund. The community will hold 69% of all BAR, the TBIS team will hold 20% of BAR (subject to a freeze period), 10% of BAR will be reserved for various community bounties and 1% of BAR will be allocated for the reserve pool.

The BAR cryptocurrency serves several key operational functions with respect to the TBIS platform for its holders:

1. BAR will not be the only means of paying for products and services within the TBIS ecosystem. The following currencies, which may be expanded upon later, will also be accepted: Bitcoin (BTC), Ethereum (ETH), Monero (XMR) and Verge (XVG). However, if a customer uses BAR, they will receive a 5% discount on the product/service they are purchasing.
2. BAR owners will be allowed to participate in milestone completion votes, which will be used to unlock reserves for BAR expenditure.
3. BAR will serve as the primary mechanism for verifying third-party marketplace smart contracts in a decentralized and secure way.
4. When TBIS smart contracts are deployed by users, the BAR that is paid as a fee will be re-sold and circulated back into the ecosystem at market value.

BAR Token Sale

BAR tokens will be offered at an exchange rate of 300 BAR for 1 ETH, for a sale duration of approximately sixty (60) days. During the first 72 hours, all BAR purchased will be sold at a reduced rate. The sale is slated to begin on **December 1, 2017, at 1PM (GMT-7)**. A hidden, undisclosed hard cap will be cryptographically signed using the *keccak256* hashing algorithm and released as part of the smart contract. If this cap is reached, then it will be revealed and the sale will immediately end. Otherwise, the sale ends once the sale period has come to a close. The cap can be verified by comparing the revealed value with the hash included in the original contract. A security cap of 1 million ETH will be hardcoded into the contract, as a safety net against unforeseen complications. **This security cap is not the hard cap for TBIS, and is not intended to be reached.**

The TBIS team has pre-determined a minimum goal (denoted in Ether) that represents the runway necessary for the core TBIS platform to be finished and released. If the minimum goal is not reached by the end of the sale duration, then all contributed Ether will be marked for a refund. Anybody who contributed will be able to withdraw their Ether from the sale contract.

Before the December 1, 2017 BAR token sale, a pre-sale period of approximately one-month will transpire. During that time, investors that are willing to invest a minimum of $5,000 in the project will receive a 20% bonus. This would equate roughly to **360 BAR for 1 ETH.**

Two bonus periods will be offered at the beginning of the sale to provide early bird contributors a small incentive. During the first 24 hours of the funding period, the exchange rate will be **330 BAR for 1 ETH**, a 15% bonus. For the 48 hours after that, the exchange rate will be **320 BAR for 1 ETH**, a 10% bonus. For the 48 hours after that, the exchange rate will be **310 BAR for 1 ETH**, a 5% bonus. After the early bird periods, the price of BAR will remain at 300 BAR for 1 ETH for the rest of the sale.

Note: *The exact start date, duration of the discount period, and duration of the sale will be determined by block numbers, and thus are approximated with an accuracy of a couple of minutes.*

Half of the tokens (10% of the total token pool sold) retained by the TBIS team will be frozen for one year (12 months) from the end of the sale, with the other 10% remaining frozen for an additional year (a total of 24 months). This freeze period ensures that no developer tokens will enter circulation before the TBIS platform is live.

Any tokens purchased as part of the sale will be immediately allocated to the buyer, but will be locked from transfers until the minimum goal has been reached. In a short amount of time after the sale starts, these tokens will be spendable in the TBIS mainnet demo app, once the minimum cap is reached.

Secondary Milestone Voting

The TBIS team is committed to delivering on our promises. We believe in our product, and wish to show good faith by remaining accountable to its success. Thus, we are implementing a completion-based release model. Active users who are involved in the TBIS platform will be given a vote in determining if deadlines and milestones have been met. The TBIS team will open votes for each milestone as they are released, and TBIS users will have a window of time to signal the milestone as “complete” or “incomplete”. If a majority of votes signal the feature as “complete”, the reserves associated with that milestone stage will be released.

In the event that a milestone is deemed “incomplete”, we will engage with the community for feedback to determine our shortcomings, and address those as necessary. The vote will then be repeated after a cooldown period, up to a maximum of three votes in total. In the case of three failed votes, the lock will be released at the

discretion of the team, no less than one month after the final completion vote. This protects the long-term functionality of the TBIS platform from being locked over vote manipulation or contentious issues.

The specific milestones that have voter-locked access attached are noted in Figure 1. The TBIS team will lock 30% and 10% of the token sale proceeds until the completion of the first and second noted milestones in Figure 8.1, respectively. **The specific amounts locked may change according to the results of the token sale and the TBIS team's needs. Once finalized post sale, these numbers will not change.**

Operations and Roadmap

Our team wants to proceed with due care and caution to minimize potential asset loss for users. As these smart contracts are deployed on the Ethereum blockchain as immutable code, it is particularly crucial that everything is thoroughly battle-hardened and easily updateable to handle bugs. As part of the development process, we will source independent professional software auditing for all smart contracts, in addition to our internal verification pipeline – this comprehensive testing routine is allocated its necessary portion of time and is reflected in the paced release schedule. TBIS features will be released in the following order:

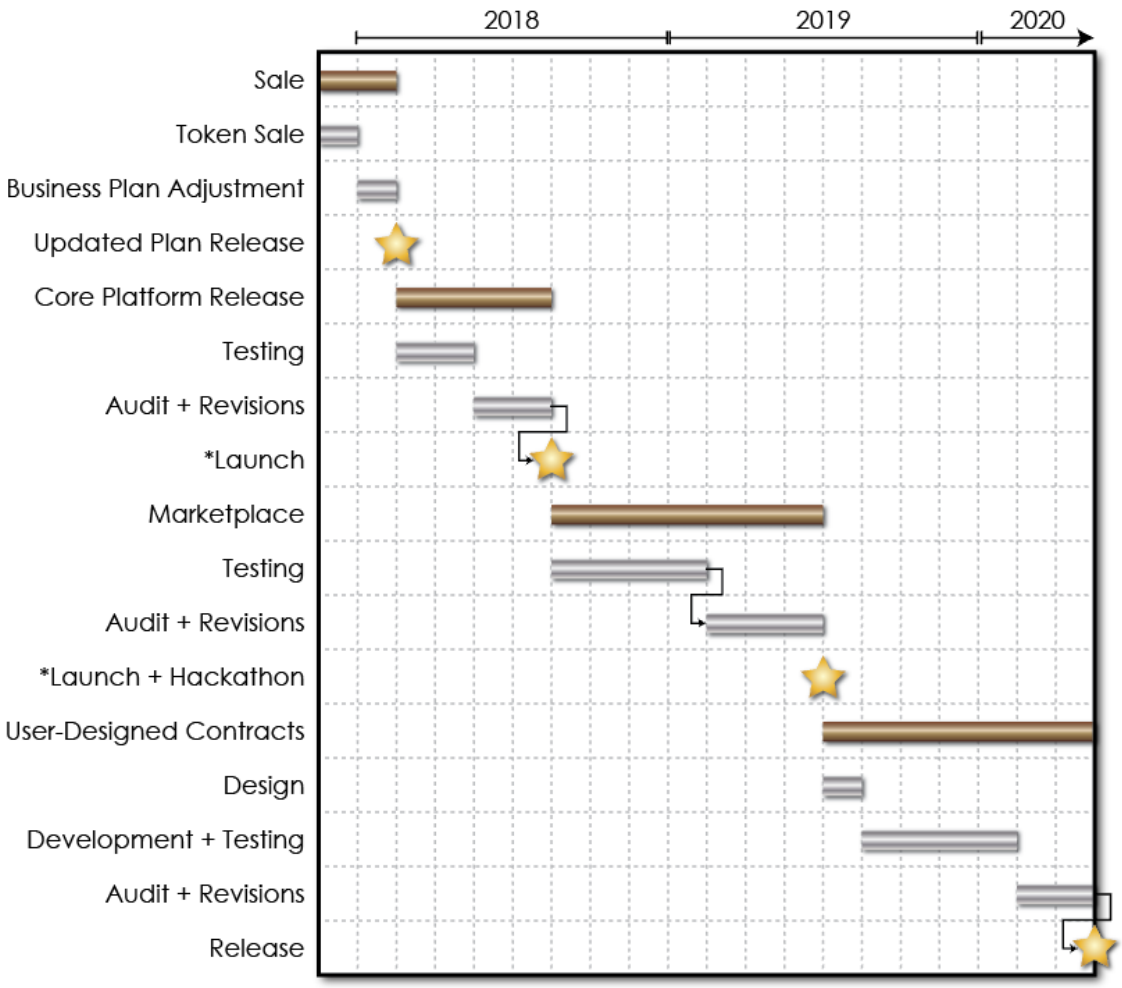

Figure 1: The feature release schedule for the TBIS platform. Vote-based unlocking will occur for the milestones marked with an asterisk "*".

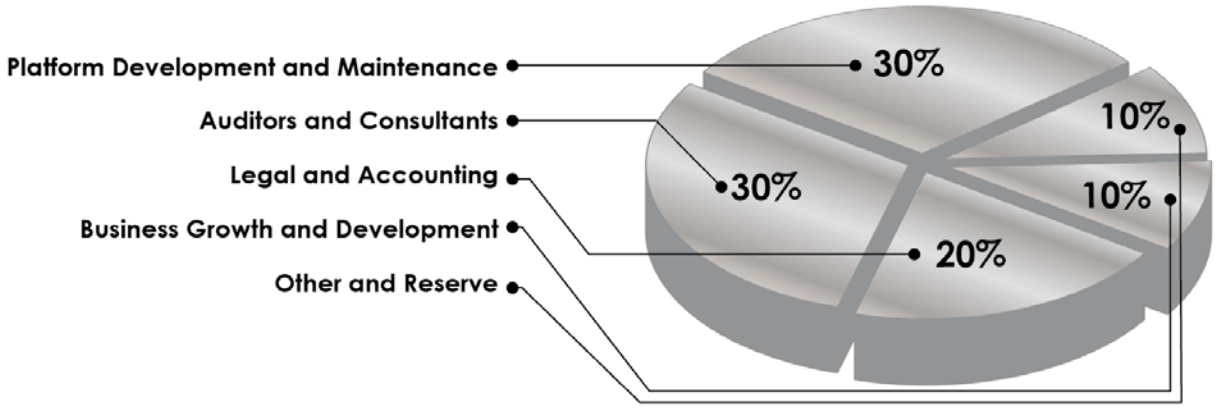

Figure 2: The expected expenditures in percent of total costs for the TBIS platform.

Key Activities

Disclaimer: The projected financial expenditure plan and release timeline are only estimates and serve to illustrate the general plan for the future of TBIS. We reserve the right to make adjustments as reasonable based on available resources and other constraints.

Our projected cost breakdown is shown in Figure 2. We briefly summarize core activities and specific expenditures below.

- **Platform Development, Testing, and Maintenance**

  Further development and continued maintenance of the core TBIS platform is the primary cost that TBIS will expense in the near future. This allocation of resources will be put towards the compensation of the core TBIS team, and any future personnel who are signed onto the TBIS team, as necessary. This will primarily consist of Software Engineers, Platform and Infrastructure Engineers, Customer Service and Support Specialists, and Product Strategists.

- **Auditing**

  To minimize risks to TBIS users, we have reached out to multiple trusted security and software verification firms which specialize in smart contract auditing. These auditors will be responsible for verifying our smart contracts before deployment, in addition to the rigorous set of internal testing performed by the TBIS team. Given the sensitive nature of TBIS's platform, we believe that it is better to err on the side of caution and will devote all of the necessary resources to ensuring a safe and secure platform for all TBIS users.

- **Business Growth and Development**

  We will be marketing our platform to ensure healthy growth. This is not only important for ensuring that TBIS remains the best platform for deploying smart contracts, but also for marketplace participants, as their ability to earn BAR will depend entirely on the size of the user base. We intend to acquire new users via targeted marketing, first focusing on targeting early adopters and businesses already building on blockchain technology. We will quickly extend our efforts towards additional channels to bring new users to both the TBIS platform and Ethereum in general. We intend to appeal both personal uses as well as businesses. That said, we view business growth in a holistic manner. We believe in demonstrating value first, as well as attracting attention through collaboration. As noted in our roadmap, we intend to organize at least one hackathon to jump start the contract marketplace. For this event, we intend to create voter tokens and to have participants choose winners. These winners will receive free auditing and early availability of their developed smart contracts on the marketplace. We will also form partnerships with other blockchain innovators to create mutual

value for our users. We will focus our business development efforts on those technologies with identifiable synergies and compatibilities with TBIS. We put open and honest relationships first, and seek to mutually encourage innovation and growth.

- **Legal**

  Our platform will require users have a clear understanding of the rights and responsibilities of all parties involved in using TBIS. Once our token sale has concluded, we will invest the necessary time and capital in developing user agreements for smart contract deployment and marketplace sellers. Future legal costs are also accounted for here.

- **Future Goals**

  Bugs and unforeseen flaws are an inevitable risk with any programming code, regardless of how thoroughly they have been vetted and reviewed. TBIS will strive to provide its users with the maximum amount of assurance possible by implementing enhanced security measures in any contract where appropriate. The ability to stop a rogue contract in a structured, pre-determined way will prevent high-value losses and ensure a safe platform for everyone, without resorting to or relying on controversial hard-forks. We also recognize that the technology landscape is quickly evolving, and that our platform infrastructure must remain agile and adapt to changing conditions. As new technology and solutions such as decentralized hosting and storage stabilize and gain adoption, we intend to move more and more of the TBIS platform to these services. This will ensure that our platform remains the preferred solution for smart contract deployment.

Legal Considerations

The most current version of this document, accessible on the web at:

https://tbis.io/wp-content/uploads/2017/10/Titanium-Infrastructure-Services-White-Paper-v1.1-10.26.2017.pdf

The version available at that URL represents the only valid version of our whitepaper.

BAR are only functional tokens intended to be used to compensate TBIS for use of it's platform. These tokens will give access to the TBIS mainnet demo app as soon as the minimum cap is achieved. BAR are not for speculative investment. No promises regarding value or future performance are made regarding BAR. No promises regarding any particular value of BAR are made. No other rights associated with holding BAR are given. Proceeds of the token sale may be spent as the company sees appropriate, which may change as deemed necessary in the maturation and advancement of TBIS.

Our team is investing heavily in the safety and security of the services TBIS provides, as detailed previously. However, we cannot protect against all possible sources of error, especially those in parts of the technology stack we cannot control. Therefore, all risks assumed by using the TBIS platform in any capacity, including but not limited to deploying smart contracts, creating and destroying virtual devices, and collecting BAR through the marketplace are solely assumed by the user. Users must measure the gravity of potential value loss against their trust in the services TBIS will provide and act as they see appropriate. Never trust anything that one cannot afford to lose to any entity, TBIS or otherwise, without fully understanding all of the mechanics involved in the whole procedure. BAR tokens are meant to be held and used by those well-versed in cryptographic tokens, only for the purpose of accessing the services offered on the TBIS platform.

TBIS and its team must abide within the laws set forth in its operational country(ies).

We intend to provide our services in as decentralized a fashion as reasonably feasible, but our legal entity must act according to the rules and bounds encoded in applicable laws. This includes but is not necessarily limited to laws governing financial operations, employment, fee charging, and sales.

POTENTIAL STRATEGIC PARTNERSHIPS THAT ARE UNDER SERIOUS CONSIDERATION

1. **BlockCAT:**
   A simple UI Ethereum smart contract creation wizard that allows users with no coding experience whatsoever to create smart contracts.

   https://blockcat.io/

2. **Golem:**
   Provisions decentralized CPU and RAM/Memory resources, at a fraction of the cost of current cloud-based systems.

   https://golem.network/

3. **Sia:**
   Provisions decentralized storage at a fraction of the cost of current cloud-based services such as Dropbox or Amazon Web Services.

   http://sia.tech/

4. **ShapeShift:**
   A cryptocurrency transformation service, which would allow TBIS to accept most existing cryptocurrencies as payment for our products and services.

   https://shapeshift.io/

APPENDIX A: Example Solidity Escrow Contract

```
contract decentralisedAuction{
        struct auction {
                uint deadline;
                uint highestBid;
                address highestBidder;
                uint bidHash;
                address recipient;
        }
        mapping(uint => auction) Auctions;
        uint numAuctions;

        function startAuction(uint timeLimit) returns (uint auctionID){
                auctionID = numAuctions++;
                Auctions[auctionID].deadline = block.number + timeLimit;
                Auctions[auctionID].recipient = msg.sender;
        }
        function bid(uint id, uint biddersHash) returns (address highestBidder){
                auction a = Auctions[id];
                if (a.highestBid + 1*10^18 > msg.value || a.deadline > block.number)
{
                        msg.sender.send(msg.value);
                        return a.highestBidder;
                }
                a.highestBidder.send(a.highestBid);
                a.highestBidder = msg.sender;
                a.highestBid = msg.value;
                a.bidHash  = biddersHash;
                return msg.sender;
        }
        function endAuction(uint id, uint key) returns (address highestBidder){
                auction a = Auctions[id];
                if (block.number >= a.deadline && sha3(key) == a.bidHash) {
                        a.recipient.send(a.highestBid);
                        clean(id)
                }
        }
        function clean(uint id) private{
                auction a = Auctions[id];
                a.highestBid = 0;
                a.highestBidder =0;
                a.deadline = 0;
                a.recipient = 0;
                a.bidHash = 0;
        }
}
```