



Octopus dApp



Decentralized web hosting
powered by Blockchain,
IPFS & AI

White paper
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ABSTRACT

The Blockchain in itself is a decentralized technology, meaning it is not controlled by any central body or organization thereby eliminating the roles of middlemen and third-party agencies.

Technology is anything that wasn't around when you were born. - Alan Kay

Blockchain data are stored in a database also known as block with time stamp. Data stored on a block can not be changed, changing data on a block will make the previous blocks invalid and lead to failure of the network.

The cryptocurrency market has developed remarkably since the beginning and has a combined market capitalization of approximately \$200,424,005,587 with a 24-hour-volume of approximately \$17,378,486,290 in which Bitcoin (BTC) has a dominance of about 55.4%. (Source: Coin Gecko, 14th September 2018)

As a result of this huge market capitalization, many Blockchain innovations are being developed to bridge the gap between technical complexity one of which is centralized web hosting.

Octopus dApp is the new decentralized web hosting platform set to bring the innovations of Blockchain into the web hosting industry. Our goal is to revolutionize the web hosting industry and build a self-sustaining ecosystem by combining Blockchain for decentralization on Ethereum, IPFS for secure file sharing and hosting, and artificial intelligence for predictability. Octopus dApp projects welcome you to the future of decentralized web hosting.

THE PROBLEM

DATA

The Internet is evolving at a lightning speed as new technology and applications are rolled out to make the society and corporate sectors inter-connected. With over 3.7 billion people online as at 2016 and the numbers of servers and networks surpassing the human population. There is a high demand for hosting data, web pages, applications, and relative applications on the Internet.

Daily, 2.5 quintillion bytes of data are created by 3.7 billion users accessing information on the Internet from a different part of the world using different protocols (with HTTP being the most popular).

The world data usage keeps growing as more people are expected to have access to the Internet by 2020. Therefore, there is a need to address hosting data which has emanated from the increased number of data created daily. Big data companies like Amazon, Google and Microsoft provide huge clusters of systems to host websites and other applications. Other big web hosting players like GoDaddy, Namecheap, Inmotion, Hostgator, and a host of other also provide web hosting service to address the high demand for data generated.

CENSORSHIP & CENTRAL CONTROL

The web hosting industry is saturated by server operators that provide web hosting services via a centralized system.

Big data providers like Amazon, Microsoft to mention a few operates as a centralized body on the Internet. Often, these providers shut down websites that are a threat, malicious or requested by government agencies for breaking their laws.

Also, sometimes these big players experience service outages which affect hundreds of websites. In centralized hosting, there are several points of failure like DNS (Domain Name Services) outage, server breach to mention a few most of which are not foreseen.



THE PROBLEM



FREEDOM & USER SECURITY

Besides the problem of centralization and data hosting, there is no greater threat on the Internet than the web itself. With hundreds of hacks being carried out daily on websites and web hosting providers by hackers seeking to steal information like credit card details, user names and passwords to mention a few, the Internet itself is a greater threat to the freedom and privacy of its users.

COST OF HOSTING

The cost of hosting a website and keeping it online can be enormous. This cost varies from web hosting providers. On centralized web hosting, users pay for features like web space, bandwidth, database, and other services to hosting providers. These features are usually not exhausted but they get charged upfront by users.

PROPOSED SOLUTION

To solve the problem of centralized web hosting, censorship by government agencies, data security, and scalability, there must be a system that provides decentralized web hosting, data security & privacy, scalability and mitigates censorship.

We propose to build **Octopus dApp**, a platform that combines IPFS protocol, Artificial Intelligence, and Ethereum Blockchain technology to provide decentralized web hosting.

Octopus dApp will decentralize web hosting and domain registration system using Blockchain technology at the core of its operation. We believe it can mitigate the aforementioned problems by using new technology like InterPlanetary File System (IPSF), Artificial Intelligence and Blockchain technology.

IPFS is a peer-to-peer distributed file system that seeks to connect all computing devices (nodes) with the same system of files. IPFS combines a distributed hash table (DHT), an incentivized block exchange, and a self-certifying namespace (InterPlanetary Name Space -IPNS).

Using distributed hash tables (DHT) data spreads across a network of computers and coordinated to enable efficient access and lookup between nodes.

In simple terms, by combining Blockchain technology with IPFS we are building an application that uses content address hyperlink to deliver website contents compared to the location addressing hyperlinks (HTTPS) used by centralized web hosting providers to deliver website contents.

Combining these technologies mitigate point of failures, censorship, ensure permanent website contents with distributed version control system (VCS) and create a storage marketplace which our network users earn rewards via

Proof-of-Stake (PoS) – more like Proof-of-Storage.

HOW IT WORKS

OCTOPUS UI & UX

Octopus dApp is built along with a **User Interface (UI)** with **User Experience** on top of our priority. This enables users to submit their website contents. This UI comes with powerful features like;



File manager: This is an important UX which enables users to upload their website data compressed in a zip folder, then Octopus file manager extracts the data in the upload directory. This feature allows drag-and-drop, move, copy, delete and compress. It stores data uploaded on our server(s) before it's broadcasted across the Blockchain.

File editor: A unique code editor that supports multiple languages.

Website builder: User-friendly drag-and-drop site builders which enable a user to build their website online using coded widgets. These Widgets will have functions like, header function, footer function, gallery, and others which let users with no knowledge of website design to build their website online via our UI/UX interface. These widgets are hashed into blocks and organized using DHT in IPFS.

DNS manager: This maps domain names to hashes on **Octopus dApp**. It does this by maintaining a constant connection with nodes peered to IPFS. In addition, it propagates users' updates made on their website to nodes connected to IPFS. It removes nodes not connected to the clusters from the mapping structure of the user's DNS.

Website traffic interface: This enables the user to keep track of website visitors. This interface keeps track of visitors and stores the information on the Blockchain. Users can make their stats public or keep it private.

Personal account: With this feature, users can manage their profile, change their password, add more website, add more storage, reduce storage, buy domain names, and send or receive **Mollusk Token**.

HOW IT WORKS

DATA UPLOAD

Hosting a website on **Octopus dApp** requires certain steps. Users are required to provide an email address to sign up, confirm their email using a link, after which they register by filling in their website name, domain name (if registered, if not we provide users with an option to register the domain name), web space required, user name, password, and Google 2FA code. Fulfilling these steps takes the user to the final (optional) stage, funding their wallet with the equivalent amount of token required to host their website. Minimum storage order will be set after MVP as well as price allocation per megabyte.

After funding their wallet, users can upload their website contents, edit it and broadcast it over **Octopus Blockchain**. **Octopus dApp** receives the files, verifies, encrypt and organize it using Merkle Tree and Directed Acyclic Graph (DAG) system. This verification is done by organizing data blocks using cryptographic hash functions. Contents uploaded are assigned to the user using a hash for each data file and then broadcasted to nodes.

PROVIDING NODE Providing a node to **Octopus dApp** requires few steps. One of which is going through a registration process via **Octopus dApp** software (Windows OS, Mac OS, or Linux OS) or via **Octopus dApp** mobile app (Android or iOS). The registration is done using the device which the user would like to commit storage. By doing this, the device is hashed and given a unique ID with cryptographic public keys and private keys.

The second stage requires the user to fund his wallet within **Octopus dApp** software or mobile app with a minimum of five (5) **Mollusks**. This step is required to activate our side-chain which works with **Octopus dApp (Mainchain)**. The side-chain is a co-existing Blockchain which provides the token structure for **Octopus dApp**. The side-chain tracks users' wallet to ensure users are rewarded with Mollusks for storing website content using Proof-of-Stake.

In addition, it let users list or de-list website contents, and provide the user with send and deposit **Mollusks Token** features.

HOW IT WORKS



STORAGE MARKETPLACE

Our network is made of different user storage systems (nodes) connected to **Octopus** via **Tentacle (swarms of networks within Octopus framework that ensures nodes are connected on our secured peer-to-peer network using a cryptographic public key and private keys as authentication. It also ensures that contents are securely hosted on our nodes and peered to the user domain).**

Octopus dApp leverages the storage capacity provided by each node connected to it. All nodes running on **Octopus Blockchain** will have a unique ID. Octopus will use its storage space to store the user's website contents.

Since it stores data on **Octopus Blockchain** using content-based addressing system, multiple nodes deliver the same content when requested through its assigned hash.

In simple terms, a user visits a domain but contents are delivered using its hash.

Earning Mollusk Token

Each node connected to our Blockchain will be rewarded with **Mollusk** (The core cryptocurrency) for storing user's website data and when the end user's website data is requested, thus a proof-of-storage decentralized web hosting platform.

HOW IT WORKS



OCTOPUS AI In Blockchain, data are stored on nodes. When a node is off-line, data stored on it becomes unavailable. We developed private network of sub-blockchains with three Artificial Intelligence Peers. These peers are computed to operate independently of **the Octopus** network to ensure that unavailable data are encrypted, organized, stored and meets public consensus.

In addition, **Octopus** AI will predict the point of failures in nodes by collecting data like storage space, network connection, processor speed, security breach/vulnerabilities. By collecting data, **Octopus** AI will recommend precaution to prevent any point of failure. Where **Octopus** AI prediction is right, it checks the data stored on a user's device and compares it with the closest node. If the data varies, it disconnects the node refusing further connection until security measure such as formatting, reducing device processes and quarantine.

DOMAIN REGISTRATION ON BLOCKCHAIN

Using a user-friendly interface, we bring the seamless possibility of registering cryptocurrency base domain names including .eth, .coin, .bit and a host of other coins including **WAVES (suggested - .wvs)**

MOLLUSK TOKEN

Mollusk is a utility token built on **Waves Blockchain**. **Mollusk** in biology is one of the preys **Octopus** feeds on. Hence, the reason for choosing **Mollusk** as our cryptocurrency name. **Mollusk** can be used for reward, bills, utility payment and for settlement. **Mollusk** is the official token for **Octopus dApp Project**.



Token Supply

100 million **Mollusk** is built on **Waves Blockchain**. **Mollusk** will be used for the purchase, access to service and reward system on our platforms and partner's platform.



Mollusk – In the Future

Mollusk Pay

An alternative payment system built to integrate **Mollusk** Token into merchants' websites and applications. This system will let merchants (e-commerce websites, web hosting businesses, and corporate bodies) receive **Mollusk** as the alternative payment option from their customers.

Plugins and modules will be developed and APIs that supports popular management systems like WordPress, WHMCS, Prestashop, Magento, Drupal, Joomla and others. Developer kits will be made available.

WHAT WE HAVE DONE

Already, we are running a centralized web hosting service for almost a year now using the location address system. We have so far built our brand to be one of the best web hosting services in our locality. We intend to add Cloud hosting, VPS, and dedicated servers and Blockchain hosting to meet the demand of non-decentralized web hosting community and Blockchain developers.

MORE PLANS The growing demand for data storage is on the surge. Traditional models of hosting data are no longer capable to provide scalable resources demanded by big data companies.

Cloud storage is a model of computer data storage that stores digital data in logical pools. The physical storage spans multiple servers (sometimes in multiple locations), and the physical environment is owned and managed by a hosting company. Cloud storage mitigates the vertical scalability challenge faced by big data companies.

We intend to expand our centralized web hosting service by owning cloud storages. In 2017, cloud storage market size was recorded at USD 30.71 billion; this is expected to grow to USD 89 billion by 2022. We believe owning cloud storages will enable us to partake in the USD 89 billion projection.

Besides owning cloud servers, we intend to have our own data centers with SSD/HDD servers powered by high-speed processors to deliver a fast and affordable web hosting service, dedicated and VPS rental.

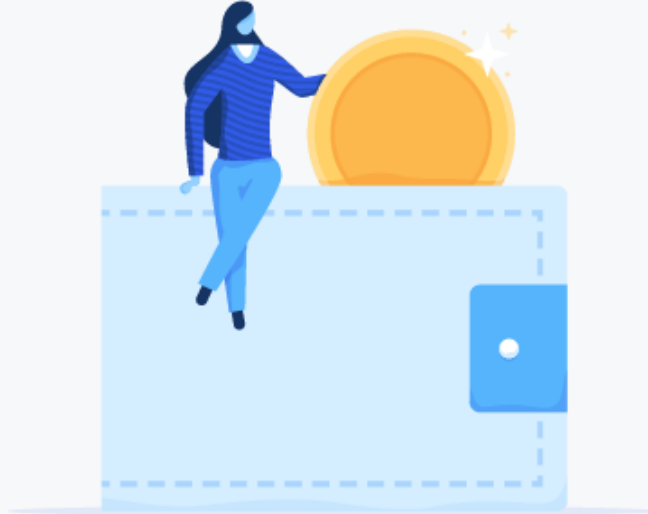
EVEN MORE PLANS Our centralized web hosting platform also provides SSL certificates, domain registration services, website builder with drag-and-drop functions, email hosting, and backup services. All these services will be expanded to accommodate more users and keep serving non-decentralized webmasters.

BUSINESS REVENUE MODEL



Our business model will receive revenue in service fees both on our centralized and decentralized hosting platforms, domain registration, SSL certification, email management, and commission on transactions within our ecosystem and **Mollusk** Pay. Payment for hosting and other services (centralized and decentralized) will be made with **Mollusk** Token.

PROJECT FUNDING



To bring the **Octopus Dapp** project to live, **Octopus** Dapp project must support its operations for a minimum of 3 years before it becomes self-sufficient and gain enough users to support our platform. Also, we have a centralized web hosting solution which we intend to add cloud hosting, VPS, and Dedicated servers.

PROJECT PHASES

First Phase; This phase involves scaling up our existing centralized web hosting platform by adding cloud hosting, VPS and Dedicated servers, Blockchain hosting and other services aforementioned. We intend to have clusters of servers that can be virtualized for users within minutes at an affordable price, get accredited by ICANN, develop our own website builder, and have dedicated WordPress hosting services. This is followed up by aggressive marketing. This will give us the opportunity to compete with existing web hosting companies in the industry.



Second Phase; To increase **Mollusk Token** usability, we will develop our **Mollusk** client software – a wallet and Decentralized Exchange for easy exchange of **Mollusks** Token to BTC, ETH, XMR, and USDT.

In addition, payment module will be built for our existing web hosting management system which will give our crypto users option to pay with **Mollusk** Token. Services paid for with **Mollusk** token will be cheaper compared to the fiat equivalent followed up by aggressive marketing.

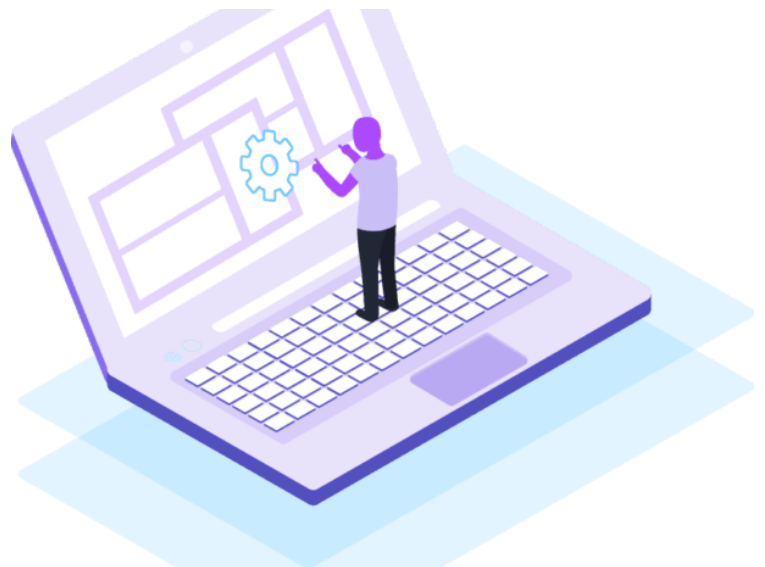
Also, popular plugins and modules will be built for a popular content management system to allow easy integration of **Mollusks** Pay on these websites.





Third Phase; We will build **Octopus** decentralized web hosting Blockchain using IPSF as its backbone to deliver decentralized web hosting to our end users. **Octopus AI, PC suits and mobile application** are built in the alpha stage are moved to the final stage followed up by aggressive marketing.

Fourth Phase; We will build a friendly user interface web portal for registration of cryptocurrency based domain names like .bit, .eth, .coin and other cryptocurrencies.



TOKEN DISTRIBUTION & SALE

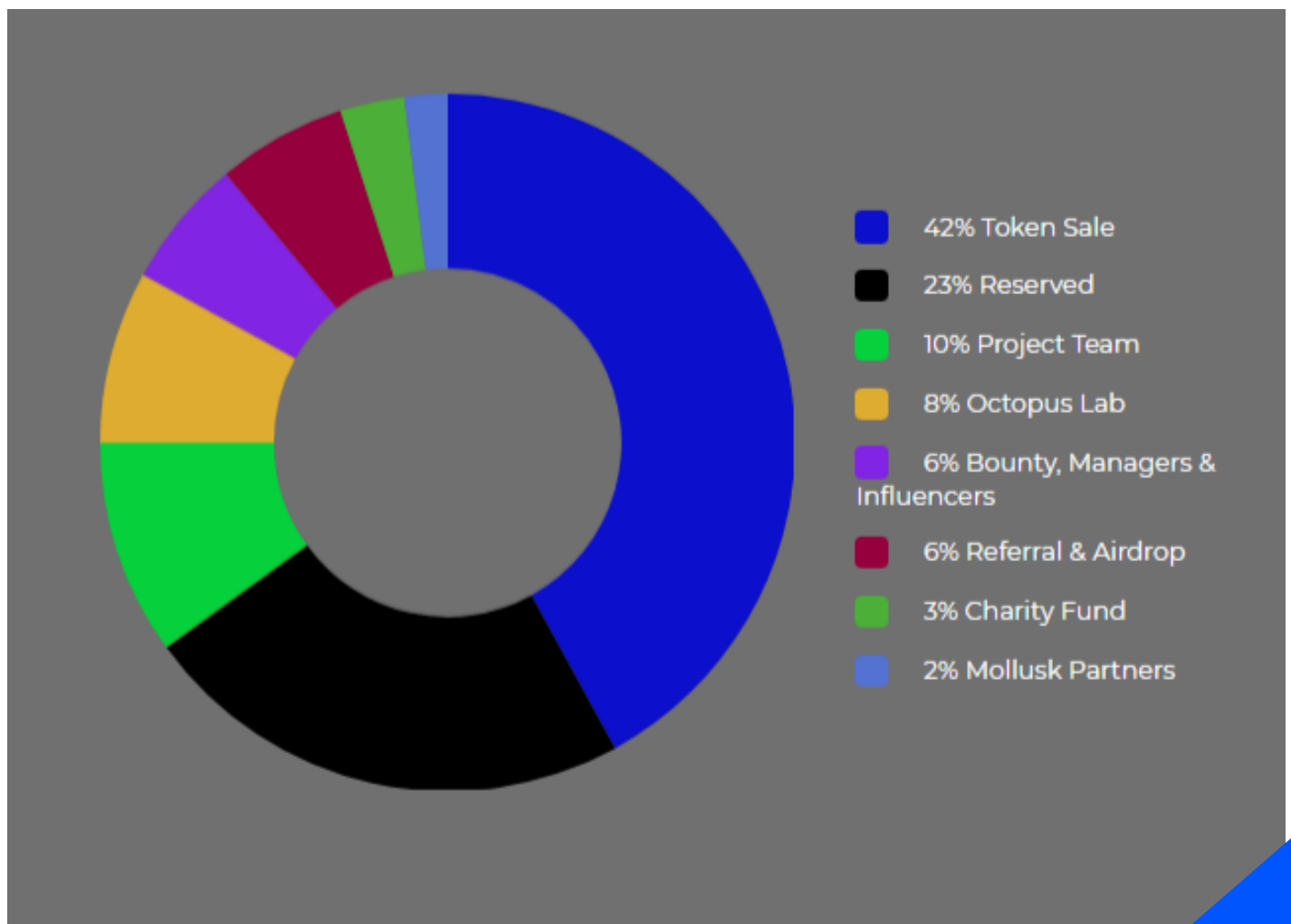
We are looking to distribute **Mollusks Token** (MLKT) within a pool of professionals, corporate organization, and investors, who are interested in **Octopus Dapp** project.

Up to 42% of MLKT are offered to the market with a Venus (Hard) cap of \$6 million, a Mars cap of \$4 million and a Soft cap of \$1.2 million.

TOKEN DISTRIBUTION

Total supply of **Mollusk Token** is 100,000,000 at the final sales price of \$0.16 (0.16 cents).

Token distribution is as follows;



TOKEN SALE

We are looking to distribute **Mollusks Token (MLKT)** within a pool of professionals, corporate organization, and investors, who are interested in **Octopus dApp** project.

Token Sales will be in 2 stages which are;

Stage One – Decentralized Exchange Offering (DEO) - Presale

Decentralized Exchange Offering (DEO) is an initiative of **Octopus dApp** team. Investors can buy Mollusk Token at a low price on [Waves DEX](#). We are looking to sell 2 million Mollusks Token (MLKT) within a pool of professionals, corporate organization, and investors, who are interested in Octopus Dapp project to raise seed capital.

This will commence from 20th of September 2018 and will run through October 2018.

Total DEO Sale: 2,000,000 MLKT

DEO Sale Price: \$0.08/1MLKT

Calculated Price: 1 Waves = 25MLKT & 0.1ETH = 250MLKT

Target Cap: \$160,000

Fund raised after DEO will be used for public sale marketing, Blockchain MVP, and re-branding (visuals content for Octopus public sale and project).

Stage Two – Public Sale

We are looking to sell 40 million Mollusks Token (MLKT) within a pool of professionals, corporate organization, and investors who are interested in Octopus dApp project.

Public sale commences right after our decentralized exchange offering.

Phase One – 10,000,000 MLKT will be sold at \$0.105 to raise \$1.05 million (25% bonus for referrals and big investors)

Phase Two – 15,000,000 MLKT will be sold at \$0.134 to raise \$2.01 million
(15% bonus for referrals and big investors)

Phase Three – 20,000,000 MLKT will be sold at \$0.15 to raise \$3 million
(5% bonus for referrals and big investors)

Total Token Sold is 40 Million MLKT with a total of \$6 million

PURCHASING TOKEN

How To Buy Mollusk Token at Decentralized Exchange Offering Price

1. Head to [Waves Dex](#) and create a Waves wallet address. If you already have one, import your seed into Waves DEX.
2. Fund your wallet with Waves coin. You can do this by;
 - i. Buy Waves coin directing from the DEX with BTC, ETH or USDT
 - ii. Transfer your Waves from existing wallet
 - iii. Purchasing Waves with your debit or credit card from Waves DEX
 - iv. Use [Changelly](#) platform to exchange any of your cryptocurrencies to Waves
3. Place your [order](#) and wait for it to be fulfilled.

Decentralized Exchange Offering Bonus

At the end of our DEO, we will scan wallets that has MLKT tokens. Wallets with more than 1250 MLKT in it get between 10% – 30% bonus.

How To Buy Mollusk Token At Public Sale Price

Investors interested in our public token sale are required to pass a KYC procedure to purchase MLKT. Funding above 5000 USD requires the investor to pass an AML procedure, this may include verification process.

Public token sale prices are set in USD, it's calculated to desire cryptocurrency base the investor wishes to use. If an investor invests 1ETH which is approximately \$210 as at 14th September 2108, 2100 Mollusk Token will be sent.

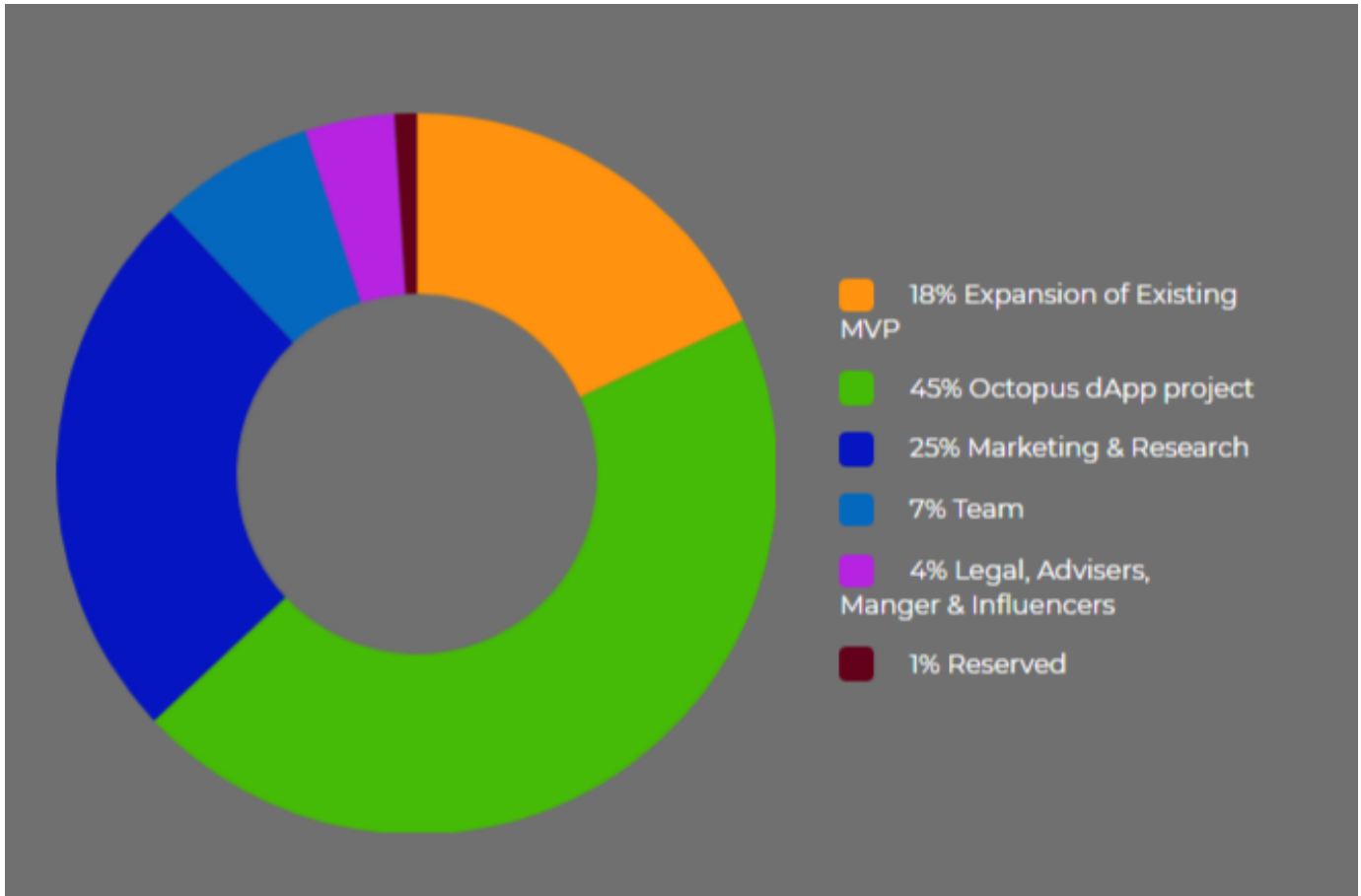
The same pricing strategy applies for other allowed cryptocurrencies including Bitcoin and Waves. There is no maximum allowed cap for ETH, BTC, or Waves, our target is to ensure our Venus cap is reached regardless of which coin has the highest investment volume.

Note: Investor must submit their Waves wallet address to take part in the public token sale.

TOKEN VESTING

Distribution of investors token and community airdrop commences after the end of our public token sale. This will be done systematically by distributing token first to public sale investors followed referrals, bounty, and airdrop members. All unsold tokens will be burnt.

TOKEN ALLOCATION



18% - For project first phase which entails expanding our existing web hosting platform.

45% - For phase two, three and four of **Octopus dApp** project

25% - For marketing and research

7% - For Team support (CEO, Project Manager, CTO, HR, COO & CMO)

4% - For Legal advisers, Technical & Senior advisers, Community manager, referral & Influencer

ROAD MAP

2016-2017

The technical part of the project was based on the achievements of our centralized web hosting; OneNet Servers, created in 2015 through 2017. This timeline includes:

- ▶ Q4- 2016 Proof of concept and research to define the need for a centralized web hosting
- ▶ Q4- 2016 Setting up OneNet Servers network and an Alpha website
- ▶ Q1- 2017 OneNet Servers Beta website with client portal launch
- ▶ Q3-2017 Branding OneNet Server on Facebook, Twitter & Instagram
- ▶ Q4-2017 Growing our customer base and social media awareness

2018

In 2018, we looked into Blockchain as a platform for decentralized web hosting.

- ▶ Q1-2018 Proof of concept and research to define the need for decentralized web hosting, discussion with the right business and technical leaders.
- ▶ Q2-2018 Project planning and full drafting of Whitepaper v.0.1, and, logo concept
- ▶ Q3-2018 Assembling core team, R&D, White Paper V1, completed on the logo, purchase of domain names, pre-launch of **Octopus dApp & Mollusks Token** website, seed fund stage, legal advisory, technical advisory, **Octopus dApp** website upgrade.
- ▶ Q4-2018 Launching decentralized exchange offering and public sale (ICO), the alpha version of **Mollusk Token** client wallet and DEX, Token vesting, Listing on exchanges and **Octopus Dapp** UI/UX for mobile app and PC client, expand management/development teams and first charity project.

ROAD MAP

2019

- ▶ **Q1-2019** Start centralized web hosting expansion, licensing in Europe, America, Africa, and Asia, a beta version of **Mollusk Token wallet**, beta version of **Mollusk Pay** plugins, modules, and developer kits, strategic partnership, and collaboration with businesses across the world, **Mollusk Pay** integration with centralized web hosting, marketing of centralized web hosting, bounty and referral program for centralized web hosting.
- ▶ **Q2-2019** Blockchain development (alpha), IPFS development, AI development, the alpha version of **Octopus** web client, mobile apps, and PC clients, the final version of **Mollusk Pay plugins, modules, and developer kits** and project auditing
- ▶ **Q3-2019** Integration trial of IPFS, Blockchain (core) and AI, alpha version release of **Octopus** dApp on Testnet, and bounty program for alpha release
- ▶ **Q4-2019** **Mollusk** side-chain integration with **Octopus dApp**, domain name registration integration, a beta version of **Octopus** web client, mobile apps, and PC clients release, the second charity project and auditing of the project

2020

- ▶ **Q1-2020** Upgrade and patches made to alpha versions, Main-net migration, bounty program, a reward for loyalty, worldwide marketing campaign launch
- ▶ **Q2-2020** Scaling the project to meet new markets, community meet-up in countries across the world through community managers, the partnership with business and auditing of the project.
- ▶ **Q3-2020** Reseller account launched for **Octopus** Dapp



THANK YOU

VISIT OUR WEBSITE FOR MORE INFORMATION &
UPDATE ON OCTOPUS PROJECT

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