

# StorHeap

*A different way to use your extra storage*



## Contents of this White Paper

- - - - X

<b>Contents of this White Paper</b>	<b>2</b>
<b>Introduction - A lot has changed...</b>	<b>3</b>
<b>Foreword - Written by StorHeap Designer, Joseph Stacklin</b>	<b>4</b>
<b>Theory - What is it and how does it work?</b>	<b>5</b>
<b>Customer Plans - How much does the user pay?</b>	<b>7</b>
<b>Heap Owners - Who holds the data?</b>	<b>8</b>
<b>Heap Owners - Payments</b>	<b>9</b>
<b>Security - Why should you trust us?</b>	<b>10</b>
<b>Investors - Why should you invest?</b>	<b>11</b>
<b>Roadmap - Where are we going?</b>	<b>12</b>
<b>Computer Specifications - How much power do you need?</b>	<b>13</b>
<b>Specifications - What are we?</b>	<b>14</b>
<b>Disclaimers - The legal stuff.</b>	<b>15</b>



## Introduction - A lot has changed...

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We're not a new crypto-currency, instead we are a way that you can earn additional revenue passively by hosting blocks of user data on your extra hard drives! Traditional cryptocurrencies require payment, a blockchain, and many hours of traditional mining using an ASIC miner, or other piece of software on your computer. This is why we are different. Think of us as a bank for your data, rather than a crypto-currency. Instead of relying on the Blockchain to verify every file, we use a simple Master/Slave file system to split files across multiple blocks of data, encrypt the files, and then backs them up to dedicated blocks for redundancy, similar to RAID 1+0 or RAID 5.

We're not trying to make a new currency, rather be a more secure, more reliable, faster, online cloud storage solution.

## Foreword - Written by StorHeap Designer, Joseph Stacklin

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Technology is moving, changing, and evolving. What if there was an ability to store files, games, and applications on a drive that wasn't yours and be able to access them in real time?

This was the question that started my journey. This White Paper is not what defines us, but rather what we want to accomplish. We know there will be many hills, mountains, speed bumps, and failures, and that's okay. Not everyone or everything is perfect. This project will surely serve as a representation of that fact.

When I had the vision of this community, I envisioned a group of people coming together to help one another. Gamers, Miners, Business people, and more. All able to access programs, applications, and files within seconds all over the Internet.

While companies like Dropbox\* charge upwards to \$180/Year for slower cloud storage that is still on your computer, taking up your precious space; StorHeap is designed to be expandable with only a few clicks of your mouse. You can delete, process, upload, and change files on the fly as if they were on your own computer! For important files you can have them always downloaded so you can still use them while you are offline!

As a network administrator and IT security consultant for many businesses, I worry about our network, maybe a little too much. That's why you are always protected by SSL-encrypted websites, and 256-Bit AES encryption for all your transactions to and from our servers and Nodes!

So let me be the first to welcome you to the future. Whether you are a gamer, Investor, Business person, or just someone with a ton of files: Welcome to StorHeap.

Sincerely,

A handwritten signature in black ink that reads "Joseph Stacklin". The signature is written in a cursive, flowing style with a large, prominent "J" and "S".

## Theory - What is it and how does it work?

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Instead of using a token or currency that is failing, and has a value, we become a new type of technology: Community-Driven, Online, Cloud-Based Storage. While programs like STORj\*, Sia\*, and BURST\* are similar, they create a whole new currency. We're not building a currency, rather a technique.

Programs like Dropbox\*, OneDrive\*, and Google Drive\* are oftenly used for cloud storage, however the goal with our community-driven cloud storage is fast, non-local storage where users can upload files, programs, and more, then be able to access them in-near real time. Thanks to our technology, the files are first backed up to a Redundancy Block where if the file should become corrupt on any of the blocks that it normally resides, or the Heap host decides to leave our network (referred to as a "Pool" from this point forward).

After the initial backup<sup>1</sup> the file will be split into multiple parts and then sent to "Master Nodes" (nodes are automatically assigned from the Pool when creating your Heap) to keep the full, in-tact version of the files. These Master Nodes are ready to deliver the file over a 256-Bit encryption standard directly to your system. This means that your system could run a game at the normal speed it would take to load the game off of your own hard drive<sup>2</sup>.

Finally, the file pieces are shared to our "Slave Nodes" which act as a buffer between fast Master Nodes, and the "Cold" Redundancy Nodes (see images for more details). All of this means that you get your files fast, and you don't have to pay any more or less, our servers do all the assignments, so if you are buying Heaps, you will get the best performance, automatically with no configuration needed on your part!

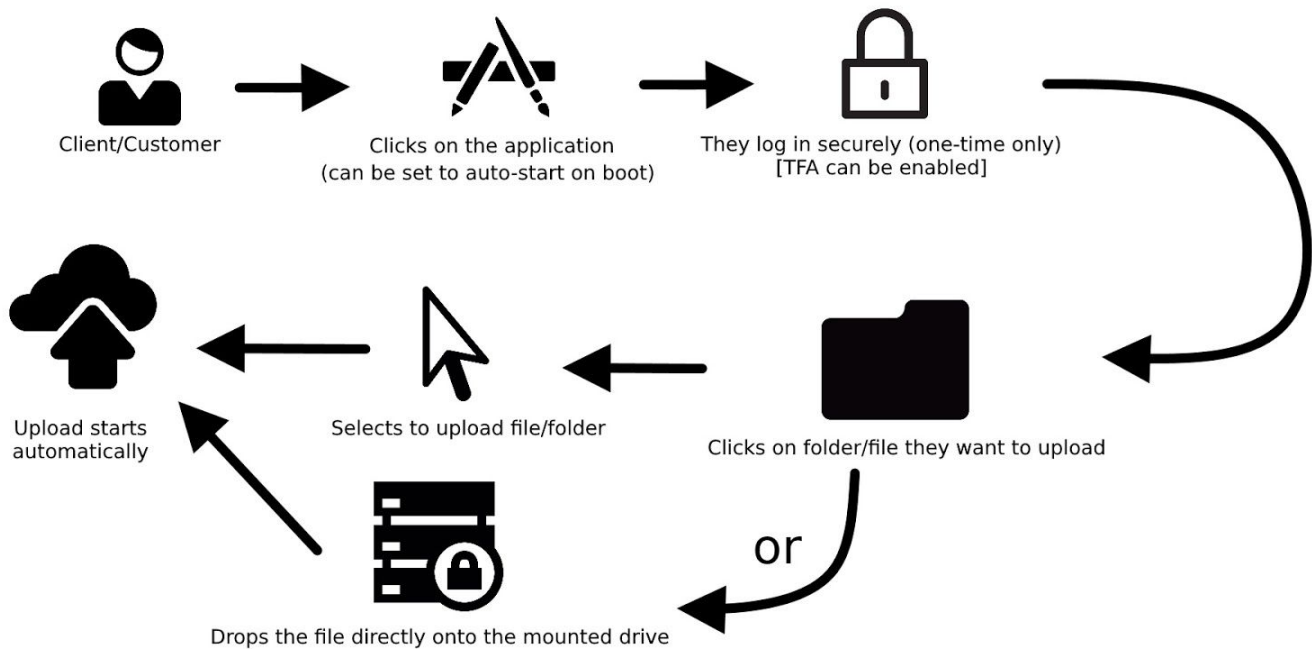
(images next page)

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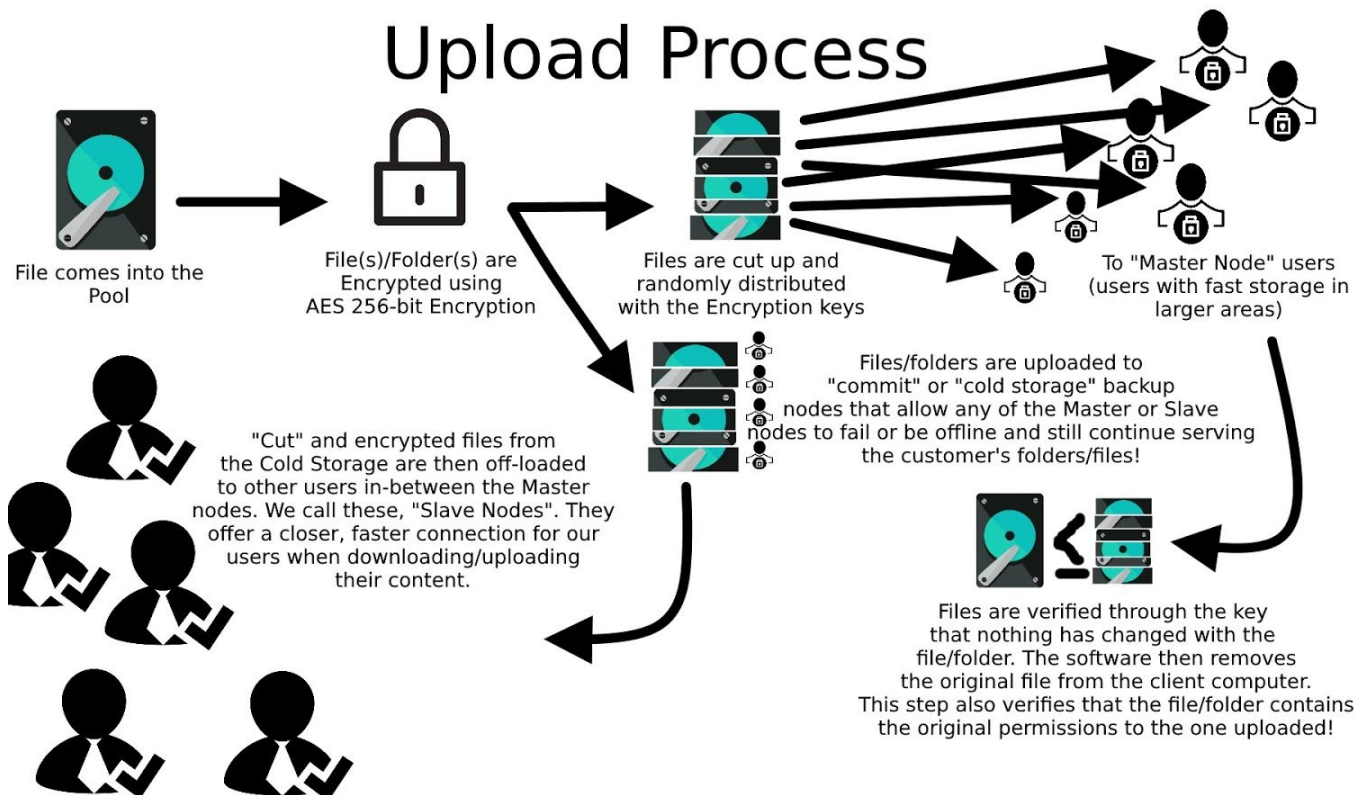
<sup>1</sup> Backups are sometimes also referred to as "commits", however "commits" may also refer to our GitHub project(s) so please use context when reading.

<sup>2</sup> Estimated average 7200 RPM drive speed assumed, load times are not representative of all situations and load times for files, folders, and programs will ultimately depend upon your network connection.

# Starting Upload Process



## Upload Process



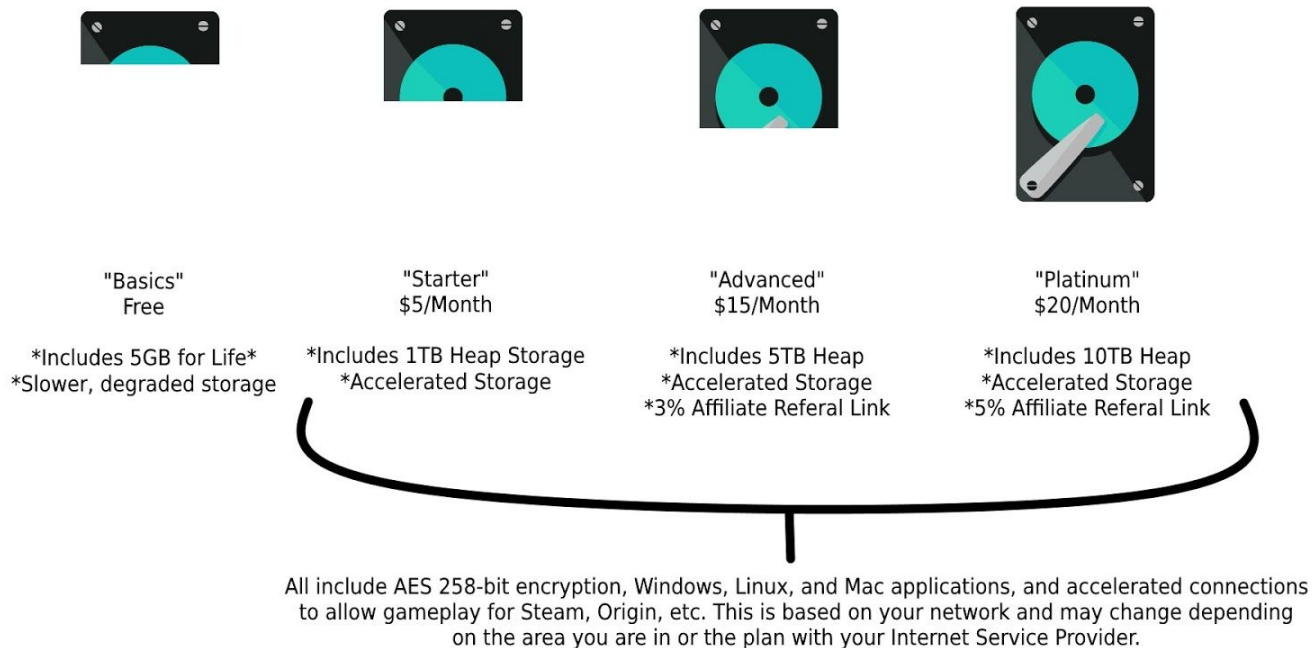
## Customer Plans - How much does the user pay?<sup>3</sup>

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We have several plans already set up for customers, all better than the last! The first plan is completely free<sup>4</sup> for all users for life<sup>5</sup>! Followed closely with the next plan that offers 1TB of Heap space for only \$5/month, with it's older brother the Advanced Plan that offers 5TB of space for only \$15/month, followed finally by the storage solution for everyone, 10TB of Heap storage for only \$20/month!

(image below)

## Plans and Proposed Pricing



<sup>3</sup> Prices and pricing subject to change, do not use any numbers in this whitepaper as a definitive answer to pricing, rather please see the official website for the most up-to-date numbers and metrics.

<sup>4</sup> Based solely on availability, at any time the free tier may be removed, any old members may be "grandfathered" in as a courtesy.

<sup>5</sup> Speeds may be degraded in comparison to that of the premium plans

## Heap Owners - Who holds the data?

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Heap Owners, or “Node” members are members of the Pool that take parts of the files. Currently there are three main jobs for Heap Owners:

1. Cold Storage Heaps - These are for users with slower hardware and/or connections<sup>6</sup> so anyone can participate with the Heap Program!
2. Slave Node Heaps - These are for users with slightly slower than normal hardware and/or connections which lay between larger cities (ie: Between Miami and Orlando, but not in a suburb).
3. Master Node Heaps - These are for users with the fastest connections<sup>7</sup> and live in or within a 5-mile radius to a large city (ie: Miami, Orlando, San Francisco, Columbus, etc.)

In the future, as we expand, more nodes will be added. These include:

1. Security Nodes - Issuing and Certifying with Let’s Encrypt (or other encryption agencies) AES certifications to every file that comes in.<sup>8</sup>
2. Honey Pot Nodes - Nodes that act solely as a dumping grounds for failed and/or corrupted uploads to the Pool.<sup>9</sup>
3. Custom-Pool Nodes - Custom end-user based Data Pools!<sup>10</sup>
4. Miner Nodes - End-users with the sole job of verifying each data transaction. This would lower the stress of the Pool servers significantly.

(continued)

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<sup>6</sup> 5400RPM (or slower) internal drives and/or external drives and/or asynchronous DSL users

<sup>7</sup> Fibre or fast Cable connections

<sup>8</sup> These would be based on distance to the nearest Master Node

<sup>9</sup> These would act as “spoofs” so anyone trying to attack and steal customer information would get completely un-usable files instead, as well we would be able to track the transaction and get them arrested or otherwise inform the proper authorities.

<sup>10</sup> These would be owned by large non-profit companies that would keep the “Open-Source” badge alive. A good example/goal would be MIT servers or Linux Foundation servers.



## Heap Owners - Payments

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Heap Owners, or “Node” members are members of the Pool that take parts of the files. You obviously have lots of storage so you don’t need that, so what could we offer you? Well we would offer you a cut of every sale using a referral link, as well as \$0.05 (0.00002 BTC)\*\*/GB stored<sup>11</sup> per month<sup>12</sup>.

Note that this is per Gigabyte STORED, not allocated. This means that you may allocate 1TB of space, but only store 10GB of data, this would mean you would be paid only \$0.50 (0.00021 BTC)\*\* that month.

Payments are done through PayPal or Bitcoin and cannot be changed once registered unless you contact support. After contacting support your account will be locked for withdraws for One (1) Month for security reasons.

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<sup>11</sup> Dependent of market value and may fluctuate. Please refer to your Heap Owner dashboard for more up-to-date information.

<sup>12</sup> Monthly payments are based on a minimum payout value: \$25 for PayPal, or at least 0.001BTC\*\* for Bitcoin Payouts.

## Security - Why should you trust us?<sup>13</sup>

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Node members and customers both need to feel safe while using our services that is why we will be implementing the following for our Pools and websites connected to those Pools:

1. 100% Secure Tunnel connection to our nodes
2. Ability to use Two/Multi-factor-Authentication for all accounts
3. All websites secured with SSL certificates
4. Every “transaction” between nodes is secured by a private key that is held by multiple users rather than one user to reduce file leakages and security breaches.
5. All servers will use multi-factor, multi-level firewalls to protect them from outside attacks and will be locked down to prevent unwanted access.
6. All servers will have failover solutions to prevent loss-of data or connection disturbances.
7. All servers will have latest security patches immediately after release to prevent issues.
8. All websites will be connected to CloudFlare for always-on reliability should the servers go down for any reason.
9. For additional security every night the websites will undergo a snapshot on the Internet Archive, as well as an off-site backup.
10. All servers will have Cold-Storage backup so all private keys are kept secure as well as user assignments.
11. StorHeap (and its parent company, OhioiProject Technology Group) never has access to customer account keys and can’t move money or adjust balance without customer consent all encryption is done on the client side, following best industry practices.

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<sup>13</sup> Additional security measures may be added or some security measures may be removed from this list, please see the website for up-to-date information regarding user, Heap-owner, and customer security.

## Investors - Why should you invest?

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Third-party investors are welcome to purchase “virtual shares” within the company. Each share is worth 0.5% of each sale day with a maximum share count of 20 for the time being, however this may change.

See the Disclaimers Page for all the disclaimers, but we can be brief here:

- There WILL be a Contract/Agreement for each virtual share you buy verified by a digital signature bound by United States of America Law
- You DO NOT own part of the company with each share and you WILL NOT get a say in company business or how the licenses are made, used, distributed.
- OhioiProject and Associates claim no Liability for any losses you may have when buying shares.
- Shares order new storage servers so we can increase reliability and availability of our network, should you attempt to hinder this in any way your shares will be removed and you will not receive any revenue for the final month while an investigation is set into motion
- Payments are sent via PayPal or Bitcoin and cannot be changed once added
- Payments may fluctuate and are based on total sales that we make per day
- Each share has a set value that will never change, see your contract for more information on this value

## Roadmap - Where are we going?<sup>14</sup>

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Q3/4 2017 - Initial CLI tools for early access Heap hosts

Q3/4 2017 - Start development on desktop and mobile apps for customers and hosts

Q3/4 2017 - Begin investment hunting and marketing (Minimum required per year: \$20,000)

Q3/4 2017 - Begin deployment of servers

Q4 2017 - Begin investment hunting and marketing for Heap hosts (Minimum required per year: 200TB)

Q1 2018 - Launch early access for customers

Q2 2018 - All desktop apps built and ready to use with no major bugs

Q3 2018 - All mobile apps deployed and ready to use with no major bugs

Q4 2018 - Move to purchase and merge STORj, BURST, and Sia

Q1 2019 - Begin Wave 2 deployment of servers and apps

Q2 2019 - Invest in Security Nodes

Q3 2019 - Invest in Honeypot Nodes

Q4 2019 - Invest in Miner Nodes

Q4 2019 - Invest in Custom Pool Deployment

Q1 2020 - Partner and buy 50% of Box

Q4 2020 - Partner and buy 50% of Dropbox

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<sup>14</sup> Dates are estimations and not “set in stone”. Dates and times may change based on investor, customer, and Heap owner interests.

## Computer Specifications - How much power do you need?

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### Minimum:

- 64-Bit OS:
  - Microsoft Windows 7 SP3 or Higher
  - Mac OS X: Mavericks (10.9) or Higher
  - Any LTS Linux version from 2015 or newer (ie: Ubuntu 12.04 LTS)
- 4GB RAM
- 500GB+ Hard Drive
- Dual-Core CPU 1.3GHz or Higher
- DSL Internet Minimums
  - Download: 10Mbit/Second
  - Upload: 0.5Mbit/Second
- Cable Internet Minimums
  - Download: 10Mbit/Second
  - Upload: 2Mbit/Second

### Recommended:

- 64-Bit OS:
  - Microsoft Windows 10 Spring 2017 Creators Update (RS3) or Higher
  - Mac OS Sierra (10.12) or Higher
  - Ubuntu 16.04 LTS or Higher
  - CentOS 7 with Epel repo installed or higher
- 8GB RAM
- 1TB+ 7200RPM Internal Hard Drive
- [Ryzen 7 1700](#) or [Intel Core i5](#)
- DSL Internet Recommended
  - Download: 25Mbit/Second
  - Upload: 1Mbit/Second
- Cable Internet Recommended
  - Download: 60Mbit/Second
  - Upload: 5Mbit/Second

## Specifications - What are we?

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Company Name: StorHeap Cloud Storage LTD.

Parent Company: OhioiProject Technology Group LTD.

Primary Website: <https://storheap.com>

Phone Number for Issues: +1 567-275-1071 (Customer Support Option)

Primary eMail for Support: [support@storheap.com](mailto:support@storheap.com)

Ticker: HEAP

Withdraw Fee (Miners/Heap Owners): 3% for PayPal, 5% for BTC

Supply: Changes based on multiple factors, including but not limited to:

1. Market value per GB
2. Amount of allocated storage in Pool
3. Amount of users buying storage from Pool
4. Market value and profitability of company

Payments: PayPal (USD) or Bitcoin (BTC)

Starting Value (In TB): 100

Starting Value (In USD): \$500,000

Starting Value (In BTC<sup>15</sup>): 212.40895

Wallets: N/A - Not a "true" crypto-currency

Mobile Apps: Pending as of Writing

Desktop Apps: Pending as of Writing

Public GitHub for Project: <https://github.com/ohioiproject/StorHeap>

Project License: [GNU AGPL 3+](#)

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<sup>15</sup> As of writing, value may fluctuate. Value of BTC is \$2353.95/BTC as of writing.

## Disclaimers - The legal stuff.

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This program is free software: you can redistribute it and/or modify it under the terms of the GNU Affero General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Affero General Public License for more details.

This Whitepaper is to be used as a “proof-of-concept” rather than a guarantee that you will become profitable on any investment made to the company via storage plots, or monetary gifts.

The project is “open-source” under the GNU AGPL 3+ License and it’s sources are available on GitHub in the “Specifications” section of this White Paper. All tweaks, translations, and more will be audited and reviewed rigorously before any commits to the project code will be done.

In no way shape or form do we offer a guarantee or warranty that you will receive any money from this project should you choose to invest with us. All investment contracts leave us free of liability and must be signed prior to any investments made to OhioiProject Technology Group, or StorHeap, or either of their associates.

Legally binding contracts must have an adult of the age of 18 or older (due to regional laws in the United States of America) from both parties, as well as a notary signature or third party verification software to verify all signatures present. OhioiProject Technologies Group issues contracts and agreements through Concord Now, a free third party signature solution online. Legally binding contracts are formatted and written in English and can be translated by using services like Google Translate to get a rough representation of what the contract is saying. Should you not understand any part of the contract, please wait to

sign until you can get legal counsel. OhioiProject, StorHeap, and Associates will NOT pay or reimburse you for any legal counsel you pay for or receive and by using the software or softwares you agree to any and all terms listed within your Agreement including, but not limited to: Payment Terms, Limited Liability, Availability, Risk and Account Management, as well as System Stability.

\* - STORj, Dropbox, Microsoft OneDrive, and any others named in this document is not affiliated with StorHeap, OhioiProject Technology Group, or any of their Associates or third parties.

\*\* - Bitcoin is a changing Crypto-Currency and it's value may change over time. Please use the latest numbers from a reputable source to convert the values listed above.